THE CULTIVATOR.

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THE CULTIVATOR

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THE CULTIVATOR.

DEATH OF WILLIS GAYLORD.

A bright light has been extinguished in the death of our associate and friend, WILLIS GAYLORD. He expired at his residence, Limerock Farm, Onondaga county, on the 27th of March, in the fifty-first year of his age. An aged mother deplores the loss of a most devoted son, over whose fragile form she had watched with all a mother's tender care for more than fifty years—a brother and sister weep for one who had ever manifested for them the most heartfelt affection—and his friends, and none more than ourselves, mourn the loss of one, beloved alike for his genius, his faithfulness, and the happy temper of his mind; while the American farmer has to regret the sudden departure of one who has labored zealously and successfully for years to promote his interest, to enlighten his mind, and to elevate his calling to that dignity and respect to which it is so justly entitled. His death was sudden, and to his family, as well as to us, most unexpected. He was taken with a bilious affection of the stomach on the night of the 25th The next morning a physician was called in, and remedies were administered, which it was thought would afford relief. No alarm was felt, as no immediate danger was apprehended, till early on the morning of the 27th, when it was discovered that his life was rapidly drawing to its close. At 9 o'clock, thirty-three hours after the commencement of the attack, he sank gradually and gently into the arms of death without a groan or a struggle. He had been for more than thirty years a worthy member of the Presbyterian Church, and the hopes and consolations of the gospel had enabled him to endure, not only without a murmur, but with a buoyant and cheerful spirit, an amount of bodily suffering which falls to the lot of but few

Mr. Gaylord was born in Bristol, (Conn.) in 1792, and removed with his father's family to Otisco, in this State, in 1801. This town was then almost an unbroken wilderness, but three families having preceded that of Mr. Gaylord's father. Young as he was, the deep, dark and majestic forests, as he entered them, at the beginning of summer, made an impression upon his mind, and excited a love for trees, which was never effaced. He always spoke of them with enthusiasm. In a letter, written but a few weeks before his death, he says—"When we entered these forests, the heavy foliage wore its freshest green, and the elm, the maple, and the linden, were successively laden with flowers; and never shall I forget the rich, the indescribable perfume which filled the air as tree after tree was cut down, and day after day passed away before the blossoms had ceased to exhale their odors from their withered cups." Deprived as he was, by this removal, at the age of nine years, of the advantages of even the District Schools of his native State, he was soon after visited with an affliction which prevented his reaping the benefits to be derived from the establishment of the similar institutions which are sure to rise up in all new countries, peopled by emigrants from New England. At the early age of 12 years, he was attacked with a violent rheumatic affection, which resulted in a curvature of the spine, and unfitted him, in all after-life, for any active or laborious pursuit. His innate love of knowledge, however, was such that no bodily infirmity or ordinary obstacle was permitted to dampen his ardor for its acquirement. Being unable to attend school, he studied such school-books as were to be procured at that early day, carefully noting such parts as he could not alone surmount, till he could obtain the assistance of some one who was able to solve his difficulties. He not only read with avidity, but *studied* all the books which came within his reach. He was remarkably fond of rural scenery, and when the weather would permit, it was his delight to sit for hours under the shade of trees, and cheered by the singing of the birds, pursue his studies with pencil and paper in hand to note the current of his thoughts. While thus engaged in the pursuit of knowledge, and in the enjoyment of such a degree of health as permitted him occasionally to engage in the lighter labors of the farm, he met with an accident, slight indeed at first, but which entailed upon him a vast amount of suffering, and rendered him almost as helpless as a child to the day of his death. It was occasioned by a fall, from which, at the time, he noticed only a slight bruise on the left arm. It afterwards swelled, and became a running sore, causing the decay of the bone and rendering his arm for ever after entirely useless. This affection of the arm continued for about a dozen years, and when it healed an abscess occurred in one of his sides, which continued, with occasional alleviations, till his death. Notwithstanding the pain he was thus obliged to endure for a long series of years, which was sometimes excessive, he was ever cheerful and happy; and even under the most acute suffering, was never known to utter a word of complaint.

At the appropriate season, if his health permitted, he resorted much to the woods and fields. A favorite retreat was the shore of one of those beautiful lakes which adorn the western section of our State; and there, enjoying the charming view and inhaling the refreshing breeze, his mind was at once soothed and strengthened by a con-

templation of the varied phenomena of nature. His was that happy constitution of mind which finds

"Sermons in stones, tongues in trees,
Books in the running brooks,
And good in every thing."

"Disqualified by these calamities from labor or active physical habits," in the language of one who knew him well, "he devoted his mind to study; and although suffering under severe bodily affliction, deprived of the ordinary facilities for obtaining information, without teachers, and by the aid only of such books as he was enabled at that early day to collect, he became a ripe and sound scholar, and eventually one of the most able and powerful writers of our times. For more than twenty years he had been a regular contributor to many of the American Quarterly and Scientific Journals, and in several instances to some of the most popular Magazines in Europe. His contributions to the newspaper press of this country, on almost every variety of topic, literary, religious, scientific, miscellaneous, and occasionally poetry, have been numerous and of the highest order of excellence. As a writer on all of these varied subjects, whether we regard the beauty of his style, the chasteness of his diction, or the invariable accuracy of his facts, it would be difficult to find his superior.

"The versatility of his talents, the rapidity with which he wrote, and the great number of his productions, have excited alike the admiration and astonishment of his friends.

"But the most valuable part of his writings, and for which he will be longest remembered, relate to the passion of his latter years—practical and scientific agriculture. In these departments he was thoroughly versed, as his contributions, commencing in 1833, to the old Genesee Farmer and the Albany Cultivator, will abundantly attest. The services he has rendered to the farming interest of the country have been immense, and form a legacy which will endure to a late generation. He was eminently practical and judicious in all his views and recommendations, and possessed a happy tact in communicating his impressions to others. To the readers of the Cultivator, and to the agricultural community, his loss will be irreparable.

"Isolated and excluded as he was by physical infirmity and location, from a general intercourse with his fellow citizens, there are consequently but few who can justly appreciate his many social qualities. Thoroughly informed on almost every subject of general or individual interest, he was always ready, as it was his delight, to impart to others who sought his society, the rich treasures of his well stored mind. Those few and favored friends, will long and fondly cherish his memory. As a man, his philanthropy knew no bounds. He studied and labored emphatically for the benefit of mankind. As a friend, he was true and faithful; as a son and a brother, kind and affectionate. When a man of such gifted powers and universal acquirements, in the full maturity of his intellect, and in the midst of his usefulness, is cut down suddenly and removed from among us, we may in truth mourn a public bereavement."

We add an extract from a letter of H. S. RANDALL, Esq:

"Your associate and *our* friend, Mr. Gaylord, has joined the 'innumerable caravan' that people 'the silent halls of death.' How little was I prepared to hear it—or hearing, to realize it! The ink is scarce dry on the last letter I received from him! It was written in one of his most lively and felicitous veins, and closed playfully with the oriental valediction, 'may you live a thousand years, and your shadow never be less.' How little did he dream when writing it, or I when reading it, that the last sands of his own last year of life were so nearly run out!

"Mr. Gaylord was never in good health. To be free from *racking* pain was the nearest approximation to that boon ever vouchsafed to him. There can be no indelicacy now in alluding to that dreadful physical calamity which, in language which I borrow from one of his letters, 'cut him off from the great brotherhood of man.' This, superadded to constant and oftentimes intense suffering, would have driven an ordinary mind to madness, or morose and querulous misanthropy. Not so he. Strong hearted, meek and enduring, he raised his voice among the gay and happy, and he even catched their tone. In his last letter to which I have alluded, after discussing history and fiction, commenting on Alison, Paul d'Kock, Eugene Sue, &c., he speaks of life, man, the literature and events of the day, in the tone of one who has seen the world only on its sunny side—of one whose sky has never known the presence of a cloud. Such was the uniform tone of his letters.

"Of Mr. Gaylord's early education I know little. I infer from declarations in his letters, that he was what is usually styled a 'self-taught scholar.' His reading was literally boundless. He was as familiar with the natural sciences, history, poetry, and belles-lettres, as with agriculture, and nearly if not quite as well qualified to discuss them. It was difficult to start any literary topic which you did not at once perceive had been examined by him with the eye of a scholar and critic. In one of my letters, half sportively, yet in a serious tone, I asked him 'what he thought of the German Philosophy?' In his answer, Kant and Fichte, and I think Schelling and Jacobi, were discussed with as much familiarity as most scholars would find themselves qualified to make use of in speaking of Locke, or Stewart, or Brown! In commenting on that report of mine, (on Com. School Libraries,) alluded to by him in the last Cultivator, he betrays an extensive knowledge of parts of the literature of nearly every nation in Europe.

"As a writer, the public have long been acquainted with Mr. Gaylord. He wrote on nearly every class of topics connected with human improvement; in papers, magazines, and not unfrequently in books. But it is as an agricultural writer that he is best known. Here, taken all in all, he stands unrivalled. There are many agricultural writers in our country who are as well or better qualified to discuss a single topic, than he was. But I deem it not disrespectful to say that for acquaintance with and ability to discuss clearly and correctly every department of agricultural science, he has not—he never has had an equal in this State. He was every way fitted for an editor. Placable and forgiving in his temper, modest, disinterested, unprejudiced, never evincing a foolish credulity, above deception, despising quackery, with an honesty of motive that was never suspected, his advice to the farmer was sound, discriminating and safe.

"Mr. Gaylord's style as a writer, was peculiarly chaste. intelligible to the meanest and most illiterate capacity, it charmed the scholar by its grace, its perspicuity and its flexibility. It was marked by an utter destitution of all meretricious ornament. As has been before said, he was essentially a modest man. His most decided convictions were expressed without dogmatism or assurance,, and his suggestions came as from a fellow-learner, rather than from an instructor. In epistolary writing he was peculiarly felicitous. With him I had corresponded for years. There is a charming simplicity and freedom from assumption in his letters, and he had the rare and happy faculty of discoursing on elevated subjects without stiffness—on learned ones without pedantry. His extensive correspondence, were it collected and published, would form a valuable volume; infinitely more so than many highly extolled similar publications. Such a collection, with a selection from his other writings, and a memoir of his life, should be published, and placed in every agricultural library."

At a meeting of the friends of Agriculture, held in the State Agricultural Hall, on the evening of the 29th March, JOHN P. BEEKMAN, Esq., President of the State Agricultural Society, announced the decease of Mr. Gaylord in the following just and appropriate language:

The President said that he had just received intelligence which would be heard with regret by every individual familiar with the agricultural movements of the times. The mail just arrived from the west announces the death of WILLIS GAYLORD. The judgment of every intelligent farmer in the State will respond to the assertion that to no man whatever—excepting perhaps Judge Buel—is the agriculture of the State more indebted than to Mr. Gaylord.

The character of Willis Gaylord was in all respects

what might be expected from his writings—benevolent, enlightened, elevated—yet plain, practical, unassuming. His character may well serve as a beacon-light not only to farmers, but to men in all conditions of society. Without any advantages of early education—debarred even, by physical infirmity, from many opportunities which others enjoy for self-improvement—he conquered all obstacles by unflinching perseverance in pursuit of knowledge. His acquirements as a man of science, evinced by his writings for literary and scientific journals as well as for the 'Cultivator,' would reflect credit on many who enjoyed the advantages of collegiate education. And those acquirements were of the progressive character—every day of his useful life being marked not merely by the exercise of his versatile talent on the multifarious objects embraced by agriculture and the domestic arts, but by advancing steadily in the acquisition of knowledge from the various departments in the wide range of science. It would be sufficient, indeed, to say of him, that, as senior editor of the 'Cultivator,' he had proved himself every way worthy as a successor of the lamented Buel.

Like Buel, also, Gaylord was cut down in the maturity of his intellect—in the very field of his fame—cut off suddenly, too, as Buel was—precluding even intimate friends from the privilege of soothing his dying hours—so suddenly was death consequent on the commencement of the fatal disease.

When the President concluded his remarks, of which the foregoing is a mere outline, the following preamble and resolutions were unanimously adopted:

Whereas, This meeting of the friends of Agricultural improvement have heard with deep regret of the recent and sudden death of Willis Gaylord, of Onondaga, senior editor of the 'Cultivator'—well known to the Agricultural world for the versatility of his talent as a writer on subjects essential to the interests of Agriculture and the Domestic Arts:

Be it therefore Resolved, That in testimony of respect for the memory of this distinguished friend of Agriculture, this meeting do now adjourn; and that copies of these resolutions, signed by the officers of this meeting, be enclosed to the bereaved family of the lamented dead, in testimony of our sympathy in their affliction.

Resolved also, That these resolutions be published in the newspapers, as a mark of respect for the memory of the departed.

NEW PUBLICATIONS.

Rnport on the Commencement and Progress of the Agricultural Survey of South Carolina, for 1843, *by* EDMUND RUFFIN, *Agricultural Surveyor of the State.*

South Carolina has at last entered in earnest, as we trust, upon the development of her great agricultural resources; and one of the first steps was the appointment of Mr. Ruffin, well known as the former editor of the Farmer's Register, and the author of the most able work on calcareous manures that has yet appeared in any country, to make an Ag. Survey of the State. He entered upon his duties in 1843, and we have his first Report before us in a pamphlet of 170 pages. An examination of it, fully confirms us in the opinion formed and expressed by us, that the selection for surveyor was a most fortunate one.

The first object of Mr. Ruffin, in entering upon the practical part of his office, was to determine the existence and extent of the calcareous, or marl and limestone formation of the State, as upon the presence of calcareous manures he considered the improvement of the extensive sandy pine lands of the State to be mainly depending. His experience in the use of marl in similar districts in Virginia, led him to anticipate similar favorable results still further South; and the general sameness of the geological formations of the whole Atlantic coast south of the Delaware, or even the Hudson, induced the belief that the marl districts further north, extended to the shores of the Gulf, and furnished the means of rendering fertile those vast districts of sand which, in the south, have long seemed doomed to hopeless sterility. Besides, if Mr. Ruffin can be said to have any agricultural hobby, it is the overshadowing importance of calcareous manures, in any system of cultivation; and the effects he had witnessed in Virginia, would almost justify him in attributing a paramount influence to this auxiliary of fertility.

The extent and magnitude of the marl beds in the lower part of the State, and the presence (unsuspected in many instances,) of abundance of lime rock in the upper districts thus far included in the survey, exceeded the most sanguine expectations of Mr. Ruffin. What he has termed the "Great Carolinian Bed," is a formation of great extent, showing itself on the tide waters of most of the rivers, and having an unknown thickness. In boring for water near the Medical College in Charleston, It was penetrated about 340 feet, without any signs of its termination; and some of the bluffs higher up the river, show an exposed perpendicular surface of 60 or 70 feet. Of course the greatest facilities are offered for the loading of the marl in boats, or vessels, and transporting it to any point wanted. The richness of the marl in calcareous matter, is surprising, ranging in the several strata from 40 to 94 per cent; the latter only requiring induration to make excellent limestone.

Not the least singular feature of the calcareous deposites of the south, is that called the gigantic oyster bed strata, which stretches from Shell Bluff on the Savannah, nearly or quite across the State. There are two kinds of these mammoth oyster shells, of which specimens were collected by Mr. Ruffin; one measuring 8 or 9 inches in length by 6 or seven in width; and one 13 or 14 inches long, but not more than 3 inches wide. Bartram, who visited Shell Bluff in the last cenury, describes some of the shells as 20 inches long, 8 wide, 4 inches thick, and deep enough to receive an ordinary man's foot. These would certainly be respectable oysters, compared with the degenerate ones that tantalize oyster eaters in these days; but even these, large as they are, would shrink into insignificance placed by the side of the one sent from the East Indies, and which forms the baptismal font of Notre Dame, in Paris.

We have not space to follow Mr. Ruffin through his statements of the preparation and value of marl; his suggestions as to its use on rice lands, and his account of the culture of that important product of Carolina; or his account of the best methods of burning and using lime. We may recur to this part of the report again, and furnish the cuts of the lime kiln given by Mr. Ruffin. We again tender our thanks for our copies of this Report, and shall look with much interest for those which we understand are to follow the present one.

Observations on Vegetable and Animal Physiology. By WM. L. WIGHT, *M. D., Petersburg, Va.*

This is a pamphlet on an important subject, and one on which much light has within a few years been thrown by the advance of chemical science. The object which the writer proposes to himself is "to arrange the phenomena which are invariably connected with organization, and which are designated by the general term, *life*." In doing this, he has endeavored "1st, By a cautious induction to advance to the general principle which controls and directs the series of actions connected with the growth and nourishment of plants." And 2dly, "To show that this same law, through the instrumentality of organs and agents adapted to each exigency, presides over the higher and more complicated phenomena of animal life."

This general principle or law, he finds in electro-magnetism, and the arguments and facts by which he supports his opinions, are worthy of the attention of every inquirer into the operations of nature. The analogies between the organization and nutrition of plants and animals, has been too often overlooked, and Liebig has rendered an essential service to the cause of science by calling attention to the matter. The manner in which Dr. W. explains the action of his governing principle in the production or determination of many diseases, shows a careful consideration of the whole ground, and is worthy a philosophic inquirer after truth. The field of investigation here entered upon is ample, and we trust will not want explorers.

SCOTCH GUANO.—A plentiful deposit of this rich manure, it is reported, is found on some of the northern islands of Scotland, which will probably supercede that hitherto brought from the Pacific.

CONDENSED CORRESPONDENCE.

SHEEP AND WOOL.—Mr. JOHN JOHNSTON of Geneva, says he has read with a great deal of pleasure, the remarks of Mr. L. A. Morrell, on the subject of sheep and wool. In allusion to Mr. Morrell's observations on the practice which prevails in Scotland, of smearing sheep with a mixture of tar and butter, Mr. J. says it is not usually done immediately after shearing, but in October or November. Mr. J. says he has worked at the business for a month together. He thinks more sheep may be safely kept together than Mr. Morrell recommends—says he has frequently wintered over 600 in a yard not more than 150 feet square, and always had them in good condition—but he took good care to keep them well littered with straw. He has kept 400 in the yard alluded to, this winter, and has lost none. His sheep were fat when winter commenced, and are fat now. He lost an ewe from the premature birth of a lamb, and took 17 pounds of tallow out of her; last spring the same ewe had 7 pounds of *clean wool*. He objects to Mr. Morrell's mode of castration, and would like to show him the Scotch mode. He says he knows he should stand no chance in a controversy with Mr. Morrell upon their trifling differences of opinion. He says, "I was born the son of a shepherd, on the mountains of Scotland, was myself bred a shepherd on the very *summit* of Scotland; and there received only an education which even at that time was thought barely sufficient for a boy that was intended for nothing else but to earn his living by the sweat of his brow; but having thus been a keeper of sheep from my youth till the number of my years is now more than two score and ten, I trust I know something of the habits of those animals and their management. I have kept sheep here, more than 20 years, and I believe were the Scotch and English farmers to lay out the money for grain to feed their sheep, which they now expend for tar and butter, it would do their sheep more good than sheep-salve. Highly fed sheep need no smearing."

RYE.—R. L. PELL, Esq., Pelham, Ulster Co., says:—"I raised a crop of rye (secale cereale) last season, weighing sixty pounds to the bushel, in the followiug manner: On the 1st of September, the grain was placed in a vat of water, mixed with salt to a sufficient consistency to float an egg, and the light seeds were taken off with a skimmer. After the grain had remained in the brine ten minutes, it was drained through a sieve, mixed with *lime*, *charcoal dust*, *poudrette* and *ashes*, in equal quantities, and immediately sown at the rate of three bushels to the acre on a clover ley which had been well plowed and harrowed; the crop was cut in the milk on the 11th of July, and housed on the 18th. If left until dead ripe, a rain of three days continuance will cause it to sprout; and if sown when the ground is filled with moisture, nine times out of ten it will rot."

VALUE OF STRAW.—Mr. Pell further says:—"Farmers should on no account part with their *wheat* or *rye straw*, as fields may for years be kept in heart, by merely returning the *straw* to them; it contains all the substances requisite for a succeeding crop of grain. By Sprengel's analysis, 1,000 lbs of wheat, leaves 11.77 lbs., and the same quantity of wheat straw leaves 35.18 lbs. of ash; of the straw ash, 28.70 lbs. are silica, without which substance, it is impossible to grow either wheat or rye. In 1,000 lbs. of rye, there is 10½ lbs., and of the straw, 28 lbs. of ash; 22.97 lbs. of which is silica, showing plainly that the agriculturist may sell the grain, but on no account the straw, which contains by said analysis, *chlorine*, *phosphoric acid*, *potash*, *lime*, *sulphuric acid*, *silica*, *alumina*, with a small portion of *iron*, *magnesia* and *soda*."

We give the four following paragraphs from a communication signed "*Jonathan*," from Burlington, N. J. The necessity for condensing, alone prevents us from giving his letter at length. The allusions are to articles contained in our Feb. number:

TIMOTHY HAY.—Our Kentucky friend is not much "too severe on Timothy hay." The writer has for many years, had ample opportunity of proving the comparative value of timothy hay, with other kinds of winter food for cattle; and has found it when mowed at *any* time, inferior to most other kinds, and in fact, not worth as much per ton as the bright straw of our small grains. As a grass for pasture, it is not early in its spring growth, easily effected by the drouth and by early frost, and the after harvest produce is quite light. As regards the time of cutting it, (or any other grass,) I much prefer it being done just before the blow appears. The leaves and stems of the plant are then fresh, bright and nutritious, and the quality of the hay superior; and the after growth of grass will generally be much more, and the sward much more safe from the destructive effects of drouth. Red clover and herds grass are certainly much better for pasture or hay. The tap roots of the former, and the thick mat roots of the latter, make a better sod for plowing; or if to remain for pasturing and mowing, it will certainly be found to produce at once a more valuable crop for consumption, and to be followed more readily by the best natural grasses. If the object is to *sell* hay, cultivate what will bring the best returns of course.

TO DESTROY PEPPERMINT.—As suggested by you, D. T. Whitmore must have his meadow land sufficiently dry for the growth of good grass; and then in the latter part of October, plow flat about five inches deep; pass a roller over it; then in the spring, sow thick with oats, harrowing them in; and after harvesting them, sow buckwheat and again harrow. In the following spring, cross plow the same depth as at first; roll and harrow thoroughly, putting on a thin sowing of oats and a thick sowing of grass seeds. If the sward should not appear sufficiently decomposed when the second crop of oats is to be sown, keep it an open fallow by frequent harrowings, and perhaps a light plowing, until say the first fall month; when put on the grass seed and a thin sowing of buckwheat; the latter will spring up and shade the young grass from the injurious effects of the hot sun. Not an unimportant part of the process is, to give the ground about the time of putting on the grass seed, a coat of barn yard scrapings or well decomposed manure; by these means, the expense will probably be met, or in a great measure by the returns of the oats and buckwheat crops; and the ground placed in nice order, free from the intruder. If the ripening of the oats to be sown first, should be too late for the proper sowing the buckwheat, it can be cut when first out in head, and make a fine lot of excellent hay. It is important during the first year, that some crop should be kept growing, so as to smother in a great measure, the growth of the mint that has not been killed by the winter.

REFLECTION.—We want emphatically more reflection, more careful examination into things; and not allow ourselves to conclude what will do well in one place, will necessarily do well in another, without considering the difference that climate, soil and many other things reasonably make.

MANURES.—"First year at Farming" will probably find that the top dressing of mauure will speak well next year and years to come. Let us hear from him after the first of October next. Use the manure if but one is to be applied; if both, experiment as suggested by the editors, but with only twenty or twenty-five bushels per acre.

CLEANING WHEAT FROM IMPURITIES.—A correspondent who signs "Frock & Trowsers," says a good plan to clean wheat from impurities, such as chess, smut, &c., is to pass it through a good fanning-mill. He says his practice "is to remove all the sieves from the mill, put the screen in its usual place, and put the board that sometimes occupies the place of the screen, in the groove intended principally for the corn-sieve, slide it up just far enough to give length sufficient to the shoe, so that when the mill is in motion, and the wheat falling from the shoe, it will strike within about two inches of the upper end of the screen; it will then have a chance to run the whole length, and get rid of the cockle, dirt, kernels of smut, chess, &c., and if proper care be taken not to let the wheat through too fast, the wheat will be found at one end, its *bad company* all at the other."

CULTURE OF TEA IN AMERICA.—A correspondent signing "H. R. Americus," says:—"Nothing can be more certain than that our country is exactly suited to the culture of the TEA PLANT, and is destined at no very distant period, to be one of the greatest countries for this production in the world." The reasons he gives for this

opinion, we are in the same latitude as the best tea countries of China—that our soil is similar, and its natural productions the same. He thinks the ingenuity of our countrymen would soon enable them to understand its cultivation and the mode of curing it, as well or better than it is done by the "stupid Chinese." He suggests that some of our wealthy capitalists commence a trial of it.

HAMS.—Mr. G. Butler of Clinton, N. Y., made an experiment to ascertain whether hams gained or lost in curing. He took four hams, that when ready for pickle, weighed 115 pounds; after lying in pickle six weeks, they weighed 125 pounds; when smoked, they fell back to their original weight. He made a former trial, which did not vary materially from this.

THRESHING MACHINES.—We are informed that Mr. T. D. Burrall, of Geneva, N. Y., manufactures excellent threshing machines, which will answer for from four to eight horses, at $140 each. He is also making a new one, which it is said will be a great improvement in many respects, the price of which will be only $80.

K. L. ON TURKIES.—Your correspondent K. L. says very little, if any, Indian meal should be given to young turkies; but he omits to state what their food should be. As, within the range of my observation, Indian meal made into dough, is the principal food of young turkies, I should be pleased for one, to know what substitute for it K. L. would recommend. Would he recommend them to be confined during the season of incubation, and through the period of nursing while the young is yet small, to the *poultry yard;* or does he let them go at large in search of food for themselves, while sitting, and for their young when hatched, only keeping them up until the dew is off the ground? Some of these questions may have been anticipated in his previous communication, which I have not before me; but I hope he will instruct us at least as to the *best kind of food.* J. S. S.

TURNING IN WEEDS OR OTHER GREEN CROPS WITH THE PLOW.—In plowing stubble grounds, the weeds frequently choke the plow, and it is found difficult to bury them entirely. The same difficulty attends the plowing in of clover, or buckwheat, &c. Various contrivances have been adopted to obviate this trouble. Some fasten one end of a chain to the plow-beam, and the other end of the off-end of the "double-tree," as it is called; which being thus dragged along before the plow, bends down and draws forward the weeds in such a manner that the plow turns them fairly under. Plows have also been made very "high in the beam" to obviate the difficulty of choking. They are called "Crane plows," and are much used in western Virginia and southern Ohio.

Mr. Sidney Weller, of Halifax, N. C., informs us that he uses a very simple instrument for the purpose above named, and which answers better than any other plan he has seen. He says: "It is merely a sufficiently heavy piece of wood, like a common rake-head, with a few short teeth therein, and short handles at each end; to the end of which handles, ropes or small chains, put through holes, fasten the instrument to the end of the whiffle-tree, if a single-horse-plow, or to some part of the two-horse-tree, if a two-horse-plow. This instrument straightens and levels down the weeds, &c., immediately under the plow-beam, and before the furrow-slice. It answers with us every desired purpose."

BLACK-SEA WHEAT.—Mr. S. N. HAWES, of Shoreham, Vt., writes us that from his acquaintance with the Black-Sea wheat, he can recommend it as being superior in hardiness and productiveness, to any other variety of spring-wheat he has known. He says there is a spurious kind sold as Black-Sea wheat. The difference in the true and spurious kinds, he describes as follows: "The true kind may be known by its unusually sturdy and thrifty appearance in both stalk and head; is of one pure kind, with dark-red chaff, and tillers more than any other kind I have known; frequently producing ten stalks from a single grain, and it is conceded by the best grain-growers who have tried it, that a bushel is sufficient seed for an acre. The spurions is a mixture of two kinds in about equal parts; the one bearing a partial resemblance to the true kind, but compared with that is far inferior both in length and size of stalk, head, and berry. The other part of the spurious sort has a white chaff; the stalk and head about medium size, with a berry longer and more slender than either its associate or the true; and it requires the same quantity to seed an acre that is required of other kinds of spring-wheat; that is two bushels. Hence those on whom it is palmed off, frequently lose their first crop by only half stocking their land."

DAMPNESS IN BRICK WALLS.—In answer to an inquiry heretofore published in the Cultivator, Mr. D. TOMLINSON says:—"I have no doubt that if *hard burnt bricks,* such as are used for paving side-walks in our streets, and are water-proof, are laid on the outside course, in mortar made of water-proof lime, they would not absorb the rain and become wet. All walls, even wood, exposed to severe frost, in very cold weather, will become wet on sudden changes to warm south wind, by condensation of the moisture in the air, they being colder than the air in contact. In the city of New York some brick houses, whose gable end is exposed to the N. E. rains, have been covered with weather-boards, to prevent the rain from falling on the brick walls. Some of the cellars in Pearl and Water streets in that city, are flooded by the high tides. The corner store, on the east side of John street, at the head of Burling Slip, I have observed to be lined, both sides and floor, with boards, calked with okum, and covered over with pitch, to exclude the tide. Hard burnt, water-proof bricks, laid in mortar of water-proof lime, would have been much more durable, and would shut out water."

CARROTS.—Mr. HENRY WESTON, of Rensselaer, Indiana, says:—"Are you aware that carrots may be left, like parsnips, through the winter with impunity? They seem to undergo no material change. I think it a very important fact; for they may be left in the ground as they grow, and after turneps are consumed in spring, they will be found admirable in aid of the young grass. I mention it, supposing the fact may possibly have escaped your observation; knowing that in N. Y. carrots are always buried or housed in fall."

INQUIRY.—Mr. H. HULL, of Columbia county, N. Y., states that he intends to plant corn this season on two fields; one a light gravel, the other a retentive heavy soil inclining to clay; and he asks "which of those fields will be benefitted by a compost of plaster, lime, leached and unleached wood ashes?" He also inquires "whether the compost had better be applied in the hill at planting time, or around the plant after it is above ground?" We should expect the greatest benefit from ashes on light land, and so far as our observation has extended, the effects of plaster have been less favorable on gravelly land than on clayey or loamey; still, we do not believe that any positive rules can be laid down for the application of plaster; its operation is very various in different locations, and evidently depends on causes not yet discovered. We should prefer proving the efficacy of that substance and lime, by a small but careful experiment in the first place, and having done so, should feel more confidence as to what course to pursue. We should use the compost alluded to, either on or near the surface, and should not be very particular whether it was applied with the seed or around the plant soon after it made its appearance above ground.

NUT GRASS, OR BITTER COCO.—A subscriber at Havanna, Greene county, Alabama, wishes information on the subject of destroying this plant. Not having any acquaintance with it, we are unable to furnish such information. We cannot find any thing more definite on the subject than he will find in the Jan. and Feb. Nos. of the Cultivator. We should feel obliged if any of our friends will tell us of a good mode of destroying it. By a communication in another part of this number, it will be seen that salt is recommended for this purpose, to be sown at the rate of 40 or 50 bushels per acre.

THE SEASON.—Extract of a letter from O. PHELPS, Esq., dated Canandaigua, April 17—"The season, thus far, is very favorable for the farmer, and the winter grain on the ground, in this vicinity, never looked more promising and encouraging at this season of the year. If nothing injures it hereafter, we shall have a great crop of wheat."

AGRICULTURAL SCHOOLS.

We have so often urged the importance of having agricultural schools established in our country, that nothing but the full conviction that such institutions are essential to the prosperity and complete success of this most important branch of industry, could induce us so frequently to press the subject upon the attention of the readers of the Cultivator. We are glad to find the matter agitated in various quarters; the legislature petitioned upon the subject; and individuals beginning to enquire into the practicability and advantage of such establishments.

It is certainly one of the most important enquiries that can be made by the man of wealth, in what manner, and to what end he shall educate his sons to usefulness. He cannot look around him without having the startling truth forced upon his notice, that a large portion of the sons of such men are from their youth among the most vicious and worthless part of the community. If he has the feelings of a parent, he will be anxious by providing them with some means of employment, to prevent the ruin consequent on idleness. Shall he force them into what are termed the learned professions? These are already so filled that no little ingenuity and skill is required to devise the ways and means of so taxing the community for their support, as not to drive the producing classes into open revolt; and there are clear indications that but a little more of this kind of pressure would be required to produce such a result. The spread of intelligence, the universality of education, and the consequent expansion of individual mind, will of course do away much of the necessity which has existed for the toleration and use of these classes, and of consequence create new reasons for providing the young with other means of living. Under any circumstances, what greater benefit could he confer on them, than to make them intelligent, practical, hardy cultivators of the soil? This is a matter on which the man of wealth should reflect.

Such schools are not less important to the common farmer, who has sons to educate. It is idle to complain that the farmer has not his proper standing in the community. The fault is his own. Intelligence, science, general knowledge, always is felt, and in a community like ours, where men make or mar their own fortunes, no man destitute of such acquirements, has a right to expect success. Wealth may give a man power; but the power of Xerxes or the wealth of Crœsus, cannot command respect. This belongs to talent, to the mind, to worth; and what situation in life is more favorable to the development of these, than that of an independent, well educated farmer? A great change has come over the opinions of the world, on the important query, of what constitutes the man? and i remains for the laborer, the producer, the farmer and the mechanic, to see that the light now breaking, spreads and brightens, until all notions of a distinction of classes, other than such as depends on position, or the will of the individual, shall be found to have no existence in nature or fact. To the farmer then, agricultural schools are the means by which he can more readily qualify himself for more extended usefulness; bring science at once to bear on his favorite pursuit; and effectually do away the reproach once so common, that of all classes of society, the tiller of the soil is the most contented to be ignorant.

It has been the custom to envelope the subject of an agricultural school in a mass of matters, most of which have little connection with the subject, or which if found desirable, may be connected at any time. The public has been taught to look upon such a school, as it does upon Yale, Harvard, or Union; establishments costing thousands, if not millions; crowds of professors, and all the paraphernalia of pedantry and literary lumber. We have not a doubt, if the shadowy outline of such a magnificent establishment, had not been held up as what was wanted for an agricultural school, if the idea had not prevailed that hundreds of thousands of dollars would be required to put one in successful operation; if in the charters which have been granted looking to such institutions, moderate sums had been named, that long ere this time, we should have had more than one such school in successful operation. If we had relied more on individual effort, and less on legislative aid, and followed the example set at Hofwyl and Templemoyle, there can be no good reason given why we could not have had such schools here, or why there should not be in the vicinity of all our cities and large villages, farm schools, where the most thorough practical education, would be combined with a scientific and fully practical knowledge of agriculture, and many of the most useful branches of mechanics.

We have never advocated show in such establishments; utility is what is demanded. Industry, the means of obtaining an honest livelihood, by personal, honorable labor, is what we want at such a school; and all expenditures that do not contribute to this end, are worse than useless. Two or three hundred acres of land properly constituted and situated; good dwelling and farm buildings; a competent person to act as instructor in the sciences required to be understood or used for illustrations in teaching, such as chemistry, geology, botany, &c.; a farmer, practically acquainted with his business in all its branches, to superintend the out door operations, and a collection of such agricultural and mechanical implements, as would be required in the management of such a farm, would be sufficient for a commencement. The library, the cabinet, the laboratory, for all useful purposes, at the outset need not be costly or extensive; and as the demand increased, the means of enlargement would also accumulate. What is there to hinder any man, where such a school is wanted, who can command the requisites we have named, from opening such a school? True, he must be known, the public must have confidence that what he undertakes he can perform; men will not trust their sons in the hands of the incompetent, or willingly consent to remunerate mere pretenders, for their labors. The less of show and ostentation there is about such establishments, the more simple and family-like they are in their arrangements, and the less expense incurred in the course of education, always supposing it to be *practical and thorough*, the better it will be for all, and the more likely will they be to succeed.

If it is necessary that a small appropriation be made by the state, to put in operation such a school, as a pattern school, we think the money would be wisely expended; but we would rather see such institutions started and supported by individual energy, intelligence, and liberality. It gives us great pleasure to state that the Elm Crag Agricultural School near Nashville, under the care of Mr. Fanning, is fast progressing in public favor and usefulness; and we think with such examples as that, and those we have before named, no one need to doubt that a school in our midst, properly organized and managed, would be eminently successful.

CHARCOAL AS MANURE.

We have received a letter signed "*Long Island*," commenting on some remarks made by Dr. Lee, on charcoa as a manure, and noticing also a statement in reference to Mr. Pell's experiment on the same subject. (See Feb. No. of Cult.) Want of room prevents our giving the whole of the communication, but the following extract shows a fair view of the writer's ideas. After alluding to Dr. Lee's statement, to show that in the case in France, referred to by him, *lime* was used *with the charcoal*, and having also mentioned that Mr. Pell used 52 bushels of charcoal and 300 bushels of oyster shell lime, the writer says:—"At about the same time these articles caught my attention, I had been reading "Familiar Letters on Chemistry by Dr. Liebig," who teaches a different doctrine on this subject, the value of ammonia. In letter XV, page 51, is the following: 'Nothing can be more certain than the fact that an exportation of nitrogenized products does not exhaust the fertility of a country, inasmuch as it is not the soil, but the atmosphere which furnishes its vegetation with nitrogen. It follows consequently, that we cannot increase the fertility of our fields by a supply of nitrogenized manure, or by salts of ammonia, but rather that their produce increases or diminishes in a direct ratio with the supply of mineral elements capable of assimilation.' And in the same letter, page 52, he adds, 'The effect of an artificial supply of ammonia, as a source of nitrogen, is therefore precisely analogous to that of

humus, as a source of carbonic acid—it is limited to a *gain of time;* that is, it accelerates the development of plants.' In the above letter, Dr. L. has spread out the testimony from which these conclusions are drawn. In letter XVI he says 'my recent researches into the constituent ingredients of our cultivated fields have led me to the conclusion that of all the elements furnished to plants by the soil, and ministering to their nourishment, the *phosphate of lime*, or rather the *phosphates* generally, must be regarded as the most important.' In referring to Dr. Lee's statement respecting the use of charcoal in France, you will observe that he speaks of it in connection with the use of *lime*. Also, Mr. Pell used upon his wheat field 300 bushels of *oyster shell lime* to the acre, besides the charcoal. I think therefore, the question very naturally arises, is it the charcoal or the lime to which this increased fertility is owing? Dr. Liebig would answer emphatically the latter, and if the two examples stated stand alone, we have no evidence to gainsay his assertion. We know oyster shells to be especially rich in phosphates, and we know too, that what are called Indian lands, lands upon which the Indians held their clam bakes, are esteemed the most fertile and least easily exhausted soils. Further investigation therefore seems necessary. Nothing can be more clear than the importance to farmers of definite ideas on all subjects connected with any improvement in the management of their farms; to waste their energies on this or that project, without advancing, is to insure inattention to future suggestions. Let the experiment of charcoal and lime be made side by side, the results carefully noted, and given to the world. By a dozen such experiments, we should at least approximate more nearly to the truth."

THE WINTER—EFFECT ON THE WHEAT CROP.

There are two ways in which our severe winters operate unfavorably on our winter sown wheat; the first is when there is an excess of snow covering the fields deeply for a long time, and melting off gradually in the spring, forming a mass so close as to exclude the air, and produce what may be called the suffocation of the plant. When wheat is affected in this way, it appears of a fine green as soon as the snow disappears, but a few hours exposure to the sun and air changes this appearance to a dark color, and it is soon evident that the plant is dead, root and branch. The wheat plant does not, however, so often suffer from this cause, as from the second, which is generally called winter-killing, though it is well known more injury is done in March and April than in the winter months proper. Wheat on soils that contain an excess of water, and of which clay is a prominent ingredient, suffers much from freezing out; and this is done after the snow diappears, and the earth gives under the influence of the sun during the day time, while it freezes at night, and sometimes severely. By this repeated process of thawing by day and freezing by night, the wheat roots are drawn from the soil, and death is the natural result. The loss from this cause alone is millions annually. The true remedy is draining.

The past winter must be considered a favorable one for the wheat crop. The depth of snow was much less than usual; and the steady cold weather prevented the results which might have ensued, had thawing and freezing alternated to any extent while the ground was free from its snowy covering. Experience shows that extreme cold produces little or no effect on the wheat plant, provided the transition from that state is gradual, and without sudden and violent alternations. We are also happy to state that so far as our observation has extended, and from the intelligence that has reached us, the wheat plant, to this date, has suffered little from the action of spring frosts, and presents a very healthy appearance. It is true it cannot be considered as passed all danger from this source, but extensive injury rarely occurs after the month of March. Appearances at present indicate an early spring; the song sparrow, bluebird and robin, have already returned from their migration; the striped squirrel is abundant in the forests, and the husbandman is already in the field with his plow. Some 'snappish' days we must expect, but to those, who, like ourselves, hail the advent of spring and summer as the opening anew of sources of health and enjoyment, present appearances give a promise that the days of wild flowers, singing birds, green fields, and leafy woods, are at hand.

IMPROVEMENT OF CLAY SOILS.

Messrs EDITORS—What method shall I take to reclaim worn-out land ? soil, stubborn clay. Will leached ashes or lime effect a cure ? If so, what proportion to the acre?

E. H. NORTHRUP.

Shoreham, Vt. April 5, 1844.

The great trouble with a clay soil, is its tenacity. The compactness of its particles, keeps, in wet weather, too much water on the surface; and in dry weather it 'bakes,' as we say—becomes so hard that it absorbs but little moisture, and cannot be penetrated by the roots of plants. Thus, on clay soils, vegetation is very likely to suffer in turns, both from an excess, and a deficiency of moisture.

To guard against these difficulties, the first object should be to break this obstinate tenacity by a thorough loosening. To keep the vegetable matters near the surface, where, especially on such soils, they are most effective in aiding the growth of plants, we would turn a rather thin furrow with the common plow, and follow with a sub-soil plow, running it as deep as the implement and the strength of the team would permit. This would allow the surplus water to pass readily into the earth—the roots of plants would easily find their way in search of food—while, in time of drouth, the exhalation of moisture from below, as well as its absorption from the atmosphere would be facilitated, and the growing crop would thus be protected from the evils of too much moisture at one time, and too little at another.

As to the kinds of manure to be used, we should endeavor to apply such as would tend to correct, as much as possible, the defects of the soil. From our own experience, we should not expect much benefit from the use of ashes—their effects are more favorable on sandy soils. We would try both lime and gypsum, and if their effects proved to be such as would render their application profitable, should use such quantities as seemed expedient. We should endeavor to induce the growth of clover, and if that crop could be made to flourish, it would be found a certain and great improver of the soil; and should gypsum operate well, a high degree of fertility might be gained by the use of that substance in connexion with clover. Animal manures of all kinds, if they can be had, should of course be applied, as they are valuable on soils; and if there was a chance to obtain saw-dust conveniently, and at small expense, we would us it liberally, having witnessed its effects in improving tenacious soils.

It is proper to observe, that if draining should be necessary, that should be the first object of attention. The loosening of the soil as above mentioned, will operate as a considerable drainage; but actual observation only can determine whether it will be sufficient.

EXPERIMENTS.

Well conducted experiments are of the greatest service to the cause of agriculture. Some of the most important improvements yet made, have resulted from experiments made with care, and directed with skill. Great means are not required to institute useful experiments; the most humble tiller of the soil may contribute his part, and frequently such have rendered more aid to the progress of farming than the rich. Let every farmer then select some subject important in itself, and capable of general application, and enter upon its prosecution with a determination to give it a fair trial, to ascertain the expense, the profits, the best mode of culture or treatment, and as far as he is able, settle that question not only for himself, but for the public. The farmer should allow no year to pass, without prosecuting investigations of this kind; and if properly conducted, he will soon have a mass of facts accumulated, having a direct bearing upon his soil, crops, culture, manures, and general management of his farm, of the greatest practical value.

Corn given to fowls should be crushed and soaked in water; this helps digestion.

MONTHLY NOTICES.

☞ We are sensible that it will be impossible for us to make up, in all respects, for the loss both we and our readers have sustained in the death of Mr. GAYLORD, late associate editor of this paper. It is our intention, however, to secure such aid as will enable us to sustain as far as possible the reputation of the Cultivator, and such as we trust will prove satisfactory to our friends.

COMMUNICATIONS have been received since our last from E., A Subscriber, H. Hull, F., Another Subscriber, H. H., D. C. Goodale, S. Weller, E. H. Northrup, L. A. Morrell, Americus, L. F. Allen, E. N. Horsford, Plow Boy, (should have paid his postage,) J. Shillaber, B. H., S. N. Hawes, J. Beal, A. J. Prime, A. of the North, A Practical Farmer, H. Woniger, (from Central America,) J. S. S., C. R., Old Nova, (from Nova Scotia,) J. G. W., J. P., Frank Farmer, J. Wells, L. Durand, Mago, Viator, Junius, A Grenada Planter, (from the island of Grenada, W. I.)

☞ Our thanks are due to the Hon. Mr. ELLSWORTH, Com. Patent Office, for several parcels of seeds, including Essex Spring Wheat, English Spring Rye, Chevalier Barley, Orange Sugar Beet, Tobacco, Marrowfat Squash, &c.—To George OLMSTED, Esq. Hartford, for the Conn. Courant, with an article on the "Culture of Choice Fruits."—To D. O. PROUTY, Philadelphia, for papers of Seymour's new white giant Celery, and Union Head Lettuce.—To the Agricultural Society of the Island of Grenada, for the beautifully executed drawings of the "Cane Fly," and accompanying essay, which shall have a place in the Cultivator as soon as we get the drawings engraved.

☞ Our friend THOMAS AFFLECK, Esq. of Ingleside, Mississippi, will please accept our thanks for a copy of his very interesting lecture on the ELEMENTS OF HORTICULTURE, delivered before the Agricultural, Horticultural and Botanical Society of Jefferson College, Miss. The subject was well illustrated by Mr. A. in his usual perspicuous style.

AMERICAN HERD BOOK.—We would call attention to the prospectus of LEWIS F. ALLEN, ESQ, (in another part of this No.,) for the publication of an *American Herd-Book*. We think such a work will be well received, and from Mr. Allen's talents, and the long attention he has devoted to stock, we do not hesitate to say that he is in every way fully competent to perform the task he has undertaken; and we hope our breeders will afford him such assistance as will enable him to go on with the work.

NEW WORK ON POULTRY.—Saxton and Miles, New-York, have now in press a work on poultry, by C. N. BEMENT. From having perused a considerable portion of the manuscript, we are warranted in saying it will be a valuable publication. It will contain numerous engravings, drawn from life, of the different species and most noted varieties; besides engraved plans of poultry, horses, feeding-boxes, &c. Mr. Bement has devoted much labor to the collection of facts illustrating the habits of poultry, and the best modes of management, and we risk nothing in saying the work will be found highly interesting as well as useful.

SALE OF THE LATE MR. GROVE'S SAXONY SHEEP.—It will be seen by an advertisement in this number, that these very superior sheep will be sold in September next. An opportunity will then be afforded of obtaining fine wooled sheep, which we have no doubt are equal in value to any in the world. We have seen some animals from Mr. Grove's flock, and for fineness of staple and freedom from *gum*, as well as symmetry of carcass, we consider them unsurpassed by any we have met with.

SCIENTIFIC INSTRUCTION ON AGRICULTURE.—From an advertisement of the NEWBURG ACADEMY, of which Dr. A. J. PRIME is Principal, we learn that in addition to the branches usually taught in Academies, a department has been formed for instruction in the sciences, particularly in their application to agriculture. It is not now the intention to teach practical farming, though we are told that preparations are being made to do so at no remote day; but instruction will be given in those principles, a knowledge of which is essential to the successful prosecution of agriculture, and a full course of lectures will be given on this subject and kindred branches, and pupils of a suitable age will be taught the method of analysing soils, &c. From what we have seen of the writings of Dr. Prime, we should think him well qualified for giving such instruction as is proposed, and we would call the attention of the public to his school.

AGRICULTURAL SCIENCE.—We are gratified to learn that Mr. J. P. NORTON, of Connecticut, son of J. T. Norton, Esq., formerly of this city, who has for some years pursued the study of chemistry with some of the ablest professors of the science in this country, has sailed for Europe with the intention of pursuing the study of chemistry as applicable to the purposes of agriculture, under the direction of Professor J. F. W. Johnston, the able lecturer on Agricultural Chemistry. Mr. Norton will accompany Professor J. in his tour through Scotland during the present summer, where he is, we believe, engaged by an association of agriculturists, for the purpose of visiting and examining their farms, analysing soils, and making suggestions for their improvement. These tours will afford Mr. N. a fine opportunity to become acquainted with Scottish agriculture, and we hope he will favor us with notes of his observations.

COTTON GIN—INQUIRY.—A correspondent at "Ometepe, Republic of Central America," H. WONIGER, Esq., makes the following inquiries, and we shall be greatly obliged, if some of our Southern friends will furnish us with the information asked for:—"I read in the July No. 1842, of your interesting paper, an article, dated from Demopolis, Ala., and signed 'I. B. C.' in which the writer states that in that place, a gin for cleaning cotton has been invented on the roller principle, which he says is thought will supercede the saw gin. As I cultivate the long staple cotton, known as Sea Island, it is interesting to me to know whether this machine answered its purpose, where manufactured, and at what price. As yet, I have not seen any farther communication respecting this invention, unless it be published in those late numbers of your paper, which on account of the great distance, cannot have reached me. I beg you to have the goodness to give me all the information you can; and also wish to inquire if you know of any machine that is made use of by growers of Sea Island cotton for the purpose of ginning, other than the common roller gin propelled by the foot of the man who attends it."

WIND-MILL.—Mr. J. Wilkinson, Union Vale, N. Y., wishes to obtain a good plan for a horizontal wind-mill to place on his barn, for cutting fodder, threshing, &c. Can any of our readers furnish it?

HORSE BARN.—A correspondent wishes to see in the Cultivator, a plan of a cheap horse-barn and carriage-house, large enough for the accommodation of four horses, hay, &c. Who will furnish it?

☞ "Can pure China pigs, "white," be got, and at what price?" asks J. R. C. We know of none in this vicinity. We saw some at the Fair of the American Institute last autumn, but we could not ascertain the owner of them.

"VIATOR."—We know nothing of the implement alluded to by this correspondent. We will make the necessary inquiries, and give the results, if we ascertain any thing valuable.

PARTNER WANTED.—A gentleman residing in the Rock river country, Ill., owning a tract of land capable of supporting from ten to fifteen thousand sheep, is desirous of engaging a partner to embark with him in the sheep and wool-growing business. He describes the location as so favorable in soil, climate and productions, that "one would almost suppose nature had formed it especially for sheep." The region (he says,) is elevated, commanding a view of the surrounding country for the distance of from ten to twenty miles—presenting to the eye some of the most beautiful scenery imaginable Sheep are very healthy there, and show an increase in

weight of 10 to 20 per cent, on being carried there from Ohio and Indiana. Any person wishing to engage in this business, may learn particulars by addressing *(post paid,)* the editors of the Cultivator.

☞ The communications of Dr. Prime and Mr. Camak will appear in our next.

CHARCOAL.—In reply to "A SUBSCRIBER" from Dutchess county, we would say, we consider the remarks about charcoal, to which he refers, mainly as *suggestions*, and think the quantity per acre and the value to the crop, is to be decided by experiment.

FARMING IN NEW BRUNSWICK.—Our correspondent at St. Johns, New Brunswick, informs us that there is an increasing interest in the subject of agricultural improvement manifested by the farmers in that Province. Several Ag. Societies have been formed, and a spirit of inquiry awakened, from which much good is anticipated. Of this desire for improvement we have an evidence in the thirty subscribers forwarded us by our friend, for which he will please accept our thanks.

THE STATE FAIR.—Persons who intend to compete for any of the premiums at the State Agricultural Fair, to be held in Poughkeepsie in September, should improve all their time between this and that. The Premium List may be found in the February number of the Cultivator, and in the other agricultural publications. See to this matter in time. The extra attention you pay to your crops, and other products of your farms, will produce you pleasant excitement and profitable returns, even if you don't get a premium. There is nothing lost in agriculture, any more than in morals, by aiming at a high standard of perfection.

THE CHICKEN-HATCHING MACHINE is now in successful operation in New-York. About 50 chickens are brought forth daily, or 20,000 per annum. A remarkable fact is stated in regard to weight of chickens when they first come from the egg; the chicken being several ounces heavier than the egg was at first.

USE OF GRAPES.—Dr. Underhill strongly advises the culture of grapes, both on account of the profit to be derived from the sale of them, and from their value as food to sick and convalescent persons. At a late meeting of the New-York Farmer's Club, Dr. U. made some highly valuable observations on this subject. After 15 years' trial with various kinds of grapes, he prefers some of our natives, and recommends the Catawba and Isabella. He has three acres of the former, and seventeen of the latter. He says our people eat too much animal food, which renders their blood too thick, and causes diseases of the heart, liver and lungs. He thinks it would be infinitely better to substitute grapes and other fruit, with a little pure wine, for a portion of animal food.

ANALYSIS OF SOILS FROM ALABAMA.

To the Editors of the Cultivator—I claim the privilege of an agriculturist and a subscriber to your valuable journal, of sending you the accompanying package, and requesting, if it be practicable, you will examine the contents, state the result, and answer the following queries, which are premised by this statement.

No. 1 is a fair specimen of "sandy soil," planted in cotton, and producing good crops.

No. 2 is a deposite from the overflow of a prairie creek.

No. 3 is "bald prairie."

No. 4 is a *marl* forming the sides and bottom of said prairie creek.

In many instances the problem will soon have to be solved, whether it be best and cheapest to manure old land or buy new. Soil, artificially made rich, will produce more cotton than the best natural soil. To manure as extensively as advised by Dr. Cloud, is impracticable, unless manure can be produced otherwise than by stable-litter and stock-pens. The cotton plant and its staple, when burned, consist almost entirely of carbon. What effect upon cotton would Nos. 2, 3 and 4 (separately) produce, if mingled with No. 1? Which would be the richest and most durable in its effects, and what quantity required per acre to make its results valuable? Would burning add to the strength of Nos. 3 and 4?

There is within reach of almost every one here, quantities of dry oak and pine leaves and quick lime, which are to be obtained for the trouble only of heaping, carting and burning; and also inexhaustible stores of Nos. 3 and 4. This being the case, would Bommer's method answer a valuable end? will it produce from dry trash a manure as rich as *stable-litter*? and are the ingredients costly, other than quick lime, which is supposed to be required, and which here costs nothing in money? An answer in detail, with such additions as your knowledge and experience will suggest, would be gladly received by me, and would benefit ultimately many in this region.

Churchill, Lowndes county, Alabama. F.

We handed the above communication, together with the package of soils, to Prof. EMMONS, of this city, who has made a thorough analysis of the soils, and favored us with the following practical results. It is proper to remark here, to prevent further applications for the analysis of soils, that the analysis of the above specimens occupied nearly a week's time, and that we shall not feel at liberty again to ask the performance of a similar favor at the hands of Prof. Emmons. Should any of our friends, however, wish specimens of their soils analysed, they can have it done for a reasonable compensation—say $10 for two or three specimens.

GEOLOGICAL ROOM, APRIL 23, 1844.

To the Editors of the Cultivator—I have completed the analysis of the four specimens of soil from your correspondent in Alabama.

As the details of the analysis would probably be uninteresting, I will merely state the results:

No. 1—Light brown sandy loam, consists in 100 grains of

Hygrometric water,	3.37
Vegetable matter,	4.00
Silex,	89.00
Alumine and iron,	3.12
Carbonate of lime,	0.50
	99.99

No. 2—River Alluvion.

Hygrometric water,	5.00
Vegetable matter,	11.50
Silex,	72.00
Alumine and iron,	10.00
Carbonate of lime,	1.50
	100.00

No. 3—Shell Marl.

Hygrometric water,	2.50
Vegetable matter,	3.00
Silex,	32.50
Carbonate of lime,	49.00
Per-oxide of iron,	2.25
Alumine,	1.25
Carb. magnesia,	9.00
	99.50

No. 4—Green Sand or Marl.

Water, and volatile matter,	15.00
Silex,	41.25
Alumine and iron,	17.00
Carb. Lime,	20.25
Carb. magnesia,	0.80
Potash,	5.00
Phosphate of lime and Peroxide of iron,	0.37
	99.57

No. 1 is a light sandy soil, which after a few years cultivation will require constant manuring. This, I understand, is the cotton land, which produces well when new. It contains, as will be seen from the analysis, but a small amount of those elements which are essential to a fertile and productive soil. Now the inquiry is, what

will convert this sandy light soil into one durably productive? The answer to this question seems to be furnished by the analysis of Nos. 3 and 4.

Thus, No. 3 contains a large per centage of carb. lime, besides iron, alumine, and magnesia, the latter of which is undoubtedly a valuable element in soil. But No. 4, I think, will be more vatuable than No. 3, inasmuch as it contains 5 per cent of potash, and a fair proportion of phosphate and carbonate of lime; and as the writer inquires whether burning might not aid in increasing the value of Nos. 3 and 4, I answer that it probably would, as No. 4 is an indurated marl; and besides aiding in giving it the requisite degree of fineness, it would render its elements more soluble, and quicken its action upon the soil upon which it might be employed.

Both Nos. 3 and 4 are *strictly* marls. The first contains a few fragments of fossil shells; the latter bears some resemblance to the green sand of New Jersey both in color and composition, though the peculiar green particles are wanting in the small specimens which were examined.

No. 2 is the ordinary soil of the alluvion of rivers, and is rich in vegetable matter.

To remark farther in relation to No. 4, I would recommend that this material be raised and made into suitable sized heaps, and then exposed to air and moisture, when it will probably undergo a slow disintegration, which will fit it for use. Or let it be burned and exposed, when the peculiar changes will take place more rapidly, and perhaps be fitted for immediate use. This contains also a pretty large amount of sulphate and chloride of lime, each of which it is easy to detect in a watery solution after boiling.

Upon the whole then, I believe that both Nos. 3 and 4 will prove (if in sufficient quantity and easy of access,) very important materials for renovating the light sandy soils in their vicinity, and even applicable to soils similar to No. 2, and probably an early application of them before exhaustion has taken place would be the best economy.

The only question which remains to be answered, is, what quantity of No. 4 will be required per acre? From what I have seen of the New Jersey marl, I should recommend from 20 to 25 cart loads per acre. It may be used with perfect safety in larger quantities, but it appears to me that this is about the quantity which economy would require. Respectfully yours,

E. EMMONS.

POULTRY.

At a late meeting of farmers and others at the State House in Boston, the subject of poultry was discussed.

Mr. Cole, of the Boston Cultivator, stated that the value of poultry in the United States, was, at the time of the late census, $12,000,000. In four of the New-England states, the value of poultry was more than that of swine. Fowls are as important as hogs, and should receive more attention. Our Agricultural societies should offer premiums for the best breeds, and the best management, showing the largest production in proportion to the expense. He spoke of the Bucks county fowl, and said some capons of this breed had recently been sold in Boston at $3 per pair—or a shilling, (a sixth part of a dollar,) per lb. They weighed 18 to 19 lbs. per pair. He thought the Dorkings were on the whole as good as any breed in the country. The Liberian, or Russian fowl, with a long beard, like a Jew, are esteemed good layers—there is only a few of them in the country.

Col. Thayer, of Braintree, spoke of his experience in keeping poultry for the last forty years. He had kept various breeds of hens—he liked the Dorkings. He thought hens would lay no better, and were even more inclined to sit, if kept without a male. Hens are very profitable. There is more nett profit in six hens than in a cow. When eggs are cheap they should be kept till they are dear. He knew a man who made his fortune in eggs. They are preserved as follows: Take one quart of salt and three quarts of lime, stirred up and dissolved till it is of the consistence of cream; then put in the eggs. He thought the keeping of poultry a very profitable business. He had raised geese. He liked a cross of the wild with the Mountain geese, and he had sold these mongrels at three dollars apiece. They weighed eighteen pounds each. [We presume the "Mountain" geese spoken of are what is sometimes called the India, or African, or Swan goose.—EDS. CULT.] The Bremen geese are very large, but they lay and hatch while it is too cold for the goslings. His hens lay well in winter. He has a tight hen-house, so that water will not freeze in the coldest weather, though the door for them to go out is left open. He thought the gapes were caused by small worms in the wind-pipe that sometimes crawled up and choked them. He had destroyed them by applying spirits of turpentine on a feather, but he sometimes killed the fowls by it. Turkeys are much inclined to wander. He thinks they are not generally profitable; but he once saw a hundred or more at Mr. Webster's, in Marshfield, running on the salt-marsh, with a wide range, feeding on grass-hoppers. He thought they might in such a case be raised to advantage.

Mr. Gardner had sometimes raised turkeys—had kept 100 to 150 and when fed with curd they did well; but if they got loose and wandered about, they nearly all died.

Mr. Dodge thought fowls should have meat in winter. Any kind of meat, cooked or raw, chopped fine, is good.

Col. Thayer said he had not found white-washing hen-houses, as had been recommended, effectual in destroying lice. He had been so much troubled with them, that on going into his hen-house, a thousand would come on him. He shut up the house close and kept a fire of charcoal in it one night, and it destroyed them all.

We have condensed the above from the Boston Cultivator.

NEW WORK ON SHEEP.

Mr. L. A. MORRELL is preparing for the press a work on sheep, to be entitled the "AMERICAN SHEPHERD'S GUIDE." The different divisions of the work will embrace copious remarks on the philosophy of wool, the history of the sheep, with appropriate notices of all the different breeds and races in the world—full directions on the management of sheep—a chapter on breeding and crossing, and one on the best mode of fattening sheep for market—the diseases and anatomy of sheep, with cuts, to be compiled from the most unquestionable sources, and from eminent practical sheep-breeders in the United States—*cuts* of the *Merino*, *Saxon*, and the distinguished *English breeds*, drawn from life, &c. &c.

The object of this announcement, is to enable Mr. Morrell to obtain by a correspondence with wool-growers, such information on the various branches of sheep-husbandry, as will enable him to perfect the work; and we trust the friends of this important interest, will promptly render him all the aid in their power.

Mr. Morrell hopes to complete the work by the early part of the coming winter, when it will be submitted to the examination of the Executive Committee of the N. Y. State Ag. Society.

Such a work as is here proposed is needed, and we are very glad that the execution of it has fallen into the hands of Mr. Morrell, whose thorough knowledge and well known practical acquaintance with every department of sheep-husbandry, we consider a sufficient guaranty that every thing will be done *right*.

TRIBUTE OF RESPECT.

At the last monthly meeting of the Executive Committee of the New York State Agricultural Society, in the old State-house, in Albany,—the President, J. P. Beekman, in the chair:

After some remarks in reference to the losses the Society had lately sustained by the deaths of members,—a brief memoir of H. D. GROVE, of Rensselaer, having been read, and Mr. J. B. Nott appointed to prepare a memoir of WILLIS GAYLORD, it was then, on motion of Mr. Alexander Walsh, of Lansingburgh,

Resolved, That the members of the Executive Committee wear the usual badge of mourning for thirty days, in token of respect for their deceased associates, WILLIS GAYLORD and HENRY D. GROVE.

FOREIGN INTELLIGENCE.

By the Acadia, which arrived at Boston on the 21st of April, we have received our files of foreign papers up to the first of that month.

MR. COLMAN'S TOUR.—The first part of Mr. Colman's Tour was expected by this arrival, but we have not learnt whether it was received by his agent in Boston or not. We see by a notice in our London papers, that it was to be issued in London (in the Farmer's Magazine,) the first part to to appear on the first of this month. The Mark Lane Express, in an article on this subject, says:

"Mr. Colman has been received by the agriculturists of Great Britain with all the kindness and respect which his personal character, his mission, and the kindred associations of his country could demand; he has had the opportunity of visiting the most extensive landed proprietors, who take a general interest in the cultivation of the soil and the breeding of stock, and has been hospitably received by the most experienced and talented breeders and cultivators of the soil amongst the tenant farmers. His advantages, in these respects, have been considerable, and we know he will profit by them."

Great preparations were being made for the show of the Royal Agricultural Society, which is to take place at Southampton in July next—commencing on the 18th, and continuing until the 26th of that month. Besides erecting the necesasry buildings for the exhibition, the citizens of Southampton have subscribed $5,000 for the use the Society. Much animation exists, and the exhibition will probably equal in interest any former one.

The excitement from the discussion of "free trade" and "corn laws" still continues, and a large space in the agricultural papers is devoted to these subjects. There seems, however, no probability that any important change in the policy of Great Britain in regard to the corn laws, is about to take place. The agricultural population is vastly more numerous, and holds of course a proportionally greater influence than the manufacturing and commercial. It is estimated that there are 12.000,000 of the agricultural, and 3,500,000 of manufacturing population. The former are not likely to relinquish their influence, or submit to measures prejudicial to their interest.

The past winter in England was generally quite mild, though in some districts, especially in the highlands of Scotland, there were in February some very unusual storms of snow, which proved quite destructive to sheep, and in some instances to human life. March was remarkably cold and rainy, and in some neighborhoods considerable damage had been sustained by hail-storms, which were accompanied by very high winds and thunder. At the close of March, however, the weather was fine, and all accounts state the growing wheat never looked better. A considerable proportion of the spring grains had also been put in the ground under favorable circumstances.

The prices of meats were considered low. The best of wether mutton was selling at 6d, or in our currency, about 11 cents per lb., and beef from 4½d, to 5½d, or 8 to 10 cents per lb. The demand for American provisions generally was dull. Wheat was selling at Liverpool at 8s. 4d. to 8s. 8d, or $1,91 to $1,98, per bushel of 70 pounds. American wheat 7s. 10d. to 8s. per 70 pounds. Duties about 2s. or 46 cents per bushel of 70 lbs. Farm laborers were generally well employed at 10 to 12 shillings per week, or about 38 to 46 cents per day.

PRIZE HEIFER.—Sir Charles R. Tempest's short horn heifer, which took the first prize and gold medal of the Smithfield Club in December last, was slaughtered soon afterwards. The weight of her four quarters was 1770 pounds—the weight of the loose fat or tallow, 228 lbs. She was four years and nine months old.

TO KILL THISTLES.—It is said in some of the English papers, that if a small quantity of salt be put on the centre of the thistle, in the course of nine or ten days the root and every part of the plant will be destroyed. The salt should be applied before the thistles have become large. Try it, and let us know how it works.

ASPARAGUS.—A medical correspondent of an English paper says this plant has great virtues in curing rheumatism. Slight attacks he says are cured in a few days by a free use of this delicious esculent, and chronic cases are much relieved, especially if the patient carefully avoids all acids. He says the Jerusalem artichoke has likewise a similar effect, when used as food.

EFFECTS OF DRAINAGE ON HUMAN LIFE.—The Rev. Professor Buckland, at a public meeting held in Oxford, said that in the parish of St. Margaret, Leicester, containing 22,000 inhabitants, it appeared that one portion of it was effectually drained, some parts but partially so, and others not at all. In the latter, the average duration of life is 13 years and a half, while in the same parish, where the drainage is only partial, the average is 22 years and a half, thereby showing the frightful effects of a bad atmosphere.

EXTRAORDINANY EWE.—Mr. George Underwood, of Shenley Dens Farm, has, for the last ten years, had in his possession an ewe which has, during that period, yeaned the immense number of forty-four lambs! The animal died this year. The lambs were yeaned as follows:—1835, five lambs; 1836, five do.; 1837, five do.; 1838, four do.; 1839, three do.; 1840, five do.; 1841, four do.; 1842, four do.; 1843, four do.; 1844, five do.—total, forty four.

BARLEY.

Many people are deterred from the cultivation of barley on account of the difficulty of keeping it pure. Some have an idea that it has a natural tendency to degenerate into *oats*—a theory analagous to that of the transmutation of wheat to chess. It is contended that if barley is eaten down by worms, by geese, or by any animal, while it is growing, some mysterious change takes place in consequence, by which it produces oats instead of "seed after its kind."

This erroneous (not to say ridiculous,) theory, probably originated from the fact that oats are more hardy than barley; that they sooner recover from any accident, such as being bitten down by animals while growing; that they tiller more, send up more seed-stalks, and increase in a greater ratio from a given number of original kernels, than barley.

There is frequently some oats among barley when sown, and from the above-named circumstances, the increase of the oats is always the greatest, and if the proportion of oats in the seed sown is sufficiently large, and an accident should happen to the crop, the oats start so much sooner and so much more vigorously, that the barley may be smothered.

Mr. Merrifield, (a good farmer, by the by,) informs us that he raises barley for which he always gets in market six cents a bushel more than the usual price. He is particular to keep it pure. In the first place, he took some good two-rowed barley and carefully picked it over by hand, thus taking out from it the oats and foul seeds. He is careful that oats do not get carried to his barley-ground in manure, and therefore does not use manure with that crop; and when his horses are at work where he intends to sow barley, he gives them no oats unless they have been first burnt or baked, so that they will not germinate. From pursuing this method, his crops are clean and heavy, frequently weighing fifty-four pounds to the bushel. Of late, his barley has all been sold for seed at home, and he has brought none to market.

SOWING CORN FOR FODDER.

We would suggest the sowing of corn broad-cast, on rich land for winter fodder. Mr. Sotham, of "Hereford Hall," sowed six acres last year, which he thinks yielded nearly six tons of dry fodder to the acre. He has fed both cattle and sheep with it (cut with a machine,) the past winter, and is so well pleased with it, that he is determined not to be without it in future. Others, who have tried it, speak equally in its favor. The quantity of seed recommended to be sown per acre, is from two to three bushels. Some experiments made by Mr. Welles, of Boston, seem to show that it is best to cut it soon after the spindle makes its appearance.

THE BEST SHEEP COUNTRY.

J. S. Skinner, Esq., has sent us a copy of a correspondence between him and Hon. T. L. Clingman, member of Congress from North Carolina, on the subject of sheep-husbandry, and the best districts for keeping sheep in the United States. Mr. Clingman gives a very interesting description of a tract of country situated in the mountainous region of North Carolina, in the counties of Yancey, Haywood, &c., and judging from his statement, we should think it admirably adapted to sheep. Mr. C. says the elevation of Burnsville, the county seat of Yancey, in about 2,900 feet above the level of the ocean, and that the general level of the county is much higher. The climate is represented as being delightfully cool in summer, the mercury seldom rising higher than 76 or 80 deg. Very little of the county is said to be too rough for cultivation; a large portion, it is said, is a sort of elevated table-land; undulating, but not too broken; "even," says Mr. C., "as one ascends the higher mountains, he will find occasionally on their sides, flats of level land containing several hundred acres of land in a body. The top of the Roan (the highest mountain in the county except the Black,) is covered by a prairie for ten miles, which affords a rich pasture during the greater part of the year. The ascent to it is so gradual that persons ride to the top on horseback from almost any direction. The same may be said of many of the other mountains. The soil of the county generally is uncommonly fertile, producing with tolerable cultivation abundant crops. What seems extraordinary to a stranger, is the fact that the soil becomes richer as he ascends the mountains. The sides of the Roan, the Black, the Bald, and others, at an elevation even of five or six thousand feet above the sea, are covered with a deep rich vegetable mould, so soft that a horse in dry weather often sinks to the fetlock. The fact that the soil is frequently more fertile as one ascends is, I presume, attributable to the circumstance that the higher portions are more commonly covered with clouds, and the vegetable matter being thus kept in a cool moist state while decaying, is incorporated to a greater degree with the surface of the earth, just as it is usually found that the north side of a hill is richer than the portion most exposed to the action of the sun's rays. The sides of the mountains, the timber being generally large, with little undergrowth and brushwood, are peculiarly fitted for pasture grounds, and the vegetation is in many places as luxuriant as it is in the rich savanna of the low country."

The region is said to be particularly well adapted to grass, and grain does well.

Were it not for the great press of communications, we should be happy to publish the whole correspondence.

AGRICULTURAL MEETINGS IN ALBANY.

In our last number we gave the proceedings of the first of a series of weekly agricultural meetings, commenced at the rooms of the State Agricultural Society in this city.

We have taken notes of the discussions at the several meetings which have followed, for the Cultivator, but finding that they would occupy more room than we could possibly devote to the subject, we have given our reports of the doings to the daily papers for publication, and must content ourselves with a brief notice of them here.

The subject of discussion at the second meeting, was the connexion of geology with agriculture and other useful arts. Professor Emmons addressed the meeting at length. Professor Hall, and Mr. E. N. Horsford also spoke. Many valuable facts were stated, showing the benefit which has been in various ways derived from the geological survey of this State. Inexhaustible mines of iron ore, of different kinds, have been discovered, and questions in regard to the existence of other minerals, coal, &c., finally settled. It was observed by Professor Hall that more money had formerly been expended in searching for coal in the valley of the Hudson, than the whole survey of the State had cost. It is now certain there is no coal there.

Mr. Logan, the gentleman under whose charge the geological survey of Canada is being conducted, made some very interesting remarks. He stated that the results of the geological survey of this State had attracted much attention in Europe, and were there looked upon as quite extraordinary—especially so considering the short space of time occupied in the examination.

At the third meeting Dr. Lee gave a lecture on the subject of the practicability and expediency of growing wheat in the southern part of this State. Dr. L. recommends for those soils the application of bones and charcoal, saturated with urine. At this meeting Professor Emmons made some interesting chemical experiments illustrative of the action of different qualities of soils.

At the fourth meeting the subject discussed was wool-growing, the relative qualities and profits of different varieties of sheep, &c. The speakers were Dr. Lee, S. Howard, E. N. Horsford, J. B. Nott, Judge Cheever, and Mr. Shaw. At this meeting, also, the valuable paper by Mr. Horsford, on "Feeding Stock for Service and Slaughter," which will be found in another part of this number, was read.

The subject of discussion at the fifth meeting was *sheep-husbandry*. Mr. J. B. Nott, by previous arrangement, opened the discussion. He was followed by Dr. J. P. Beekman, President of the New York State Agricultural Society, who gave his own mode of managing sheep, which seemed to be very judicious and practical. Mr. Howard, Mr. Bement, and Mr. Sotham, also took part in the discussion.

At the sixth meeting, the subject was the improvement of the breeds of domestic animals. The discussion was conducted chiefly by Dr. Lee, Prof. Emmons, and Mr. Howard, and seemed to attract much attention. The remarks of Dr. Lee and Prof. Emmons were chiefly of a physiological character, and those of Mr. Howard were mainly designed to show what had been the system of improvement practiced by the most distinguished breeders of domestic animals.

Much interest is evidently awakened by these meetings, and we think that by another winter an organization will be adopted for carrying them on more systematically. We hope they will be kept up at least during the session of the legislature; and we see no difficulty of having such an arrangement as will secure the delivery of lectures on agriclutural chemistry, comparative anatomy, &c., besides discussions on the various subjects of practical farming and rural economy, in which all may take part by giving the details of their own experience. Some such arrangement, it seems to us, would be likely to enlist the feelings of all, and we trust will be adopted.

History of the Mercer Potatoe.—That variety of the potatoe known in some sections of the country as the Chenango or Philadelphia, in others as the Mercer, in others still, as the "*Meshanic*," (corrupted from Neshanoc,) has perhaps been more generally cultivated for several years past than any other kind. The Farmer's Cabinet gives the history of this potatoe, which is substantially as follows: In the year 1772, a family of the name of Gilkey, came from the county of Derry, in Ireland, and settled in Westmoreland county, Pennsylvania. In Nov. 1797, two members of this family, John and James Gilkey, removed to Mercer county, Pa., and settled about 2 miles east of Neshanoc creek. In 1801 or 1802, John Gilkey planted a quantity of potatoe-balls (or seeds,) from red, blue, white and other varieties of potatoes. From the potatoes produced from these balls, Mr. Gilkey selected the variety above named. They were soon after cultivated and brought into notice near Philadelphia, and from thence have been disseminated over the whole country. This history was written by James Gilkey, brother of John, who produced the potatoes. In an account of the origin of this potatoe published a few years ago, it is stated that John Gilkey was educated for a Catholic priest, and that he was an exile from the Emerald isle, &c., which his brother says is incorrect.

Cheese to China.—The export of cheese to China from this country is increasing, and will soon form a considerable item. It is packed whole in cases filled with sawdust, and secured so as to exclude the air.

ADDRESS OF THE HON. T. H. McCALEB,

Before the Agriculturists and Mechanics' Association of Louisiana—delivered at Baton Rouge on the 8th of January, 1844.

It is not often that we have the pleasure of perusing an address of this nature so well written, so appropriate, and so able, as this one from the pen of Judge McCaleb. Not so practical, perhaps, as some, it still happily blends the useful with the agreeable, and diversifies its remarks to the planter, with the fruits and flowers of literature. While he asserts that the mechanic arts have made their greatest progress on this side the Atlantic, he candidly admits that to northern genius this advance is owing. and points to the cotton gin of Whitney, the card machine of Whittemore, and the steamboat of Fulton as proofs of his position. We never reflect on the fate of Whitney without a feeling of indignation that by a mere fiction or quibble of law, the states, the value of whose soils he more than quintupled by his invention, should have deprived him of the benefits to which he was justly entitled for his discoveries. We have but room for a single extract, and that is one, which, though relating primarily to the south, is, in its principles, applicable every where. We quote it with pleasure, because it is precisely the opinion we have advanced and maintained, in regard to the capability and duty of the south as well as of the north, as the readers of the Cultivator are well aware:

"But it is in another department of industry that we exhibit a deficiency which is the more deplorable, because there is the less reason to justify it. I allude to the system of planting for the most part adopted in some of the southern States of the Union. A great change for the better has been effected within the last two or three years; but much yet remains to be done to place us on a footing of independence. There is no reason why the planters of Louisiana and Mississippi should depend on the States north of us for almost all the necessaries of life. There is no reason why you should look beyond the boundaries of your own extensive domains for the articles required for home consumption. It is a great mistake, a very great mistake, that the labor of the south can be more advantageously employed in the cultivation of the great staples of the South, to the exclusion of the nutritive grains. It is a great mistake to say you will raise nothing but sugar, or nothing but cotton, and then depend upon a *market* for the supplies essential to your very existence. Such a system may be admirably adapted to the encouragement of the industry of others, but it is destructive to your own agricultural prosperity, and directly at war with all your efforts to maintain yourselves in a state of perfect independence. Any one who will for a moment consider the annual fluctuations in the prices, not only of the staples of the south, but of those productions which you are compelled to purchase with their proceeds, will be fully satisfied of the insecurity there must be in imposing implicit reliance upon markets over which you can exercise no control, and of which you must ever be more or less, the unresisting victims. How often has it happened when the price of sugar and cotton has been low, that the price of corn, flour, bacon, and other indispensable articles of western produce, have been comparatively exorbitant; and who can fail to perceive that from such contingencies in trade, the planter is always liable to be the greatest sufferer. * * * Instead of struggling year after year to be able to tell your neighbor how many hogsheads of sugar, or how many bales of cotton you have made, devote at least one-half your labor to the cultivation of the nutritive grain and the raising of every species of useful domestic animal, from the "hog that walloweth in the mire" to the noble "war-horse, whose neck the God of battles hath clothed with thunder." Turn out for pasture the lands exhausted by tillage thro' a long series of years, and so far from destroying the herbage that may appear upon it, try to do that, which, in the estimation of one of the boldest and best writers of the last century, would render you "greater benefactors to the human race than all the politicians that ever existed"—try to "make *two* blades of glass grow where but one grew before." Thus, even your detestable, obstinate *coco-grass*, the object of so many bitter curses, and the theme of so much pitiful lamentation, may be made subservient to your interests. Cut down the undergrowth of your wild lands, and let in the genial rays of the sun, and the teeming bosom of a fertile soil will present you its verdant landscape, vocal with the bleating of flocks and the lowing of herds. Act as a people with vast internal resources would act under the operation of an embargo law. Husband your own resources. Look to your own soil. Ask no favors from others, and grant what you please. Thus you may plant, and thus successfully defend the standard of domestic independence. With well filled granaries, you may laugh to scorn the attacks of hostile, fickle, or *party* legislation, smile at the whims and caprices of commerce, and turn with listless indifference from anxious speculations on the rise and fall in stocks, or the fluctuations in the money market."

From the report of the proceedings of this association, as we find them in the Concordia Intelligencer, (one of the ablest papers in the south west, by the way,) we think the meeting and the exhibition both interesting and promising. Mississippi and Louisiana have some most able and intelligent men engaged in the great cause of agricultural reform. Banded together in these societies, their labors are united, and will be more quickly and widely felt. We wish them every success.

HORSE AND MULE TRADE.

It is generally known that in all warm climates the mule is perferred to the horse for labor, and that large numbers are annually sent from the United States to the West Indies, for the use of the sugar plantations, and for carriage animals. Some horses are also sent out for the same purpose, and the trade has usually proved mutually advantageous. A large portion of this trade is monopolized by the city of New-Haven, and furnishes a very respectable part of the export business of that city. Speaking of this branch of trade the N. H. Courier says:

"Most of these animals (horses, cattle and mules) are sent out in large vessels, called by the craft 'Horse-Jockies.' The deck of the vessel is converted into a stable, by placing a sort of roof eight feet high over it, and the horses are tied in parallel rows with their heads towards each other. The water for their use is carried in the hold of the vessel, and the hay pressed in bundles, is laid upon the temporary roof. When they are shipped, they are packed as closely as herrings in a box, so that during the whole voyage, they are compelled to stand up. At first this is very tedious to the poor brutes, and until they get their 'sea-legs' on, they suffer a great deal. Most of the mules are brought here in large droves from Canada, but often times they are driven from the west, as far even as from Ohio and Kentucky. In fact these animals are sent here from nearly every state in the Union."

The breeding of mules for southern markets has been one of the most profitable operations of the west, and more good mules have been produced in Ohio, Kentucky and Tennessee, than perhaps in all the other states taken together. One individual, in Ohio, M. L. Sullivant, Esq. of Columbus, usually sells from his own farm 200 to 300 annually; most of which go to the Baltimore market.

GRINDING CORN WITH THE COB.—Mr. John Lewis of Kentucky, in a communication published in the Southern Planter, speaks of a mill lately invented for grinding unshelled ears of corn. He describes it as follows:—"The eye of the upper stone, instead of being circular, is enlarged on one side, and a removable tube, large enough to admit any ear of corn, is thrust into this side enlargement. Into the lower stone, beneath the end of the tube, two knives are fastened, so that at every revolution of the stone, the ear of corn is swept around over these knives, which slice it up and grind it into meal. It is a patent affair, answers admirably, and is fitted to any common mill, patent included for fifteen dollars." Mr. Lewis also says—"Mr. Robert Wickliffe, of Lexington, has had lately a sort of mill erected, which grinds up oats in the sheaf or corn in the husks. I have not examined it, but am told it makes excellent *chop*, ready for moistening or feeding dry."

CORN-STALK MOLASSES AND SUGAR.

Mr. Lewis Paterson, of Tarentum, Pa., informs us of two unsuccessful attempts to manufacture sugar from corn stalks. In one instance he broke off the ears from the stalk as fast as they made their appearance, and in doing so, frequently broke the stalk, as it was at that time remarkably tender. On another lot, part of which was sweet corn, he let the ears get large enough to boil for eating, before breaking them off. The stalks were duly stripped of their leaves and crushed with iron rollers, and the juice, after having been strained through a fine sieve, was boiled off in iron kettles. After the sap was considerably reduced by boiling, it was taken out of the kettles, left to cool for an hour, some lime water added, and again put into the kettles, (leaving behind the sediment,) and boiled till it became quite thick. It was then removed and cooled; but it has had "no appearance of graining to this day." The flavor of the molasses, he says, "is wild and rank." The molasses from the lot on which the ears got big enough to boil, was best; but that "was by no means free from an unpleasant taste." It was tried in some kinds of cookery, but did not answer. Mr. Paterson does not say at what particular stage of the stalk it was cut, and this we presume to be a very important matter; as soon after a critical period the sap changes, so that the syrup is very different in its quality, and cannot be made to crystalize. We have seen excellent molasses made from corn-stalks, and very fair sugar—the molasses, equal at least, to any cane molasses. Will Mr. Aylesworth, of Granville, Ohio, inform us how he made some sugar and very fine molasses which we saw at his house, last year? We would also thank him to describe the whole process—to state particularly how the stalk should be raised and prepared, and the precise stage at which it should be cut—the expense of producing the molasses and sugar, yield per acre, &c.

Since the above was written, we have received a communication from Mr. JOHN BEAL, of New Harmony, Ind., furnishing some valuable information on the manufacture of corn-stalk sugar. It appears that Mr. Beal was quite successful in his attempts at making sugar the two last seasons. Mr. B. prepares his ground in the usual way for planting corn, and plants in rows three feet apart, with the kernels about three or four inches apart in the row; then keeps the ground clean by the use of the plow and cultivator. We subjoin an extract from his letter, and in our next will give his mode of preparing the stalk and manufacturing the sugar:

"While I am addressing you, I take the opportunity of noticing a paragraph from the communication of S. Tillotson, in the last (Feb.) number of the Cultivator. I had always much desired that some experiments should be made in Louisiana, where they have all the fixtures, and experience necessary for the purpose; but I must confess that I am not only dissappointed in the result, but surprised at the statements.

Mr. T. says the juice weighed 8 degrees, by which I suppose he means the specific gravity, or the amount of saccharine matter contained in it. Juice from my corn-stalks, was tested by Dr. Owen of this place, two separate years, and at different times, and was always found to be nine and a half; but that which excites the greatest surprise, is, that he obtained no sugar. The first experiment I made, in 1842, with about a gallon and a half of juice, boiled in a common culinary vessel over a cooking stove, yielded sugar, and every succeeding experiment, when the boiling was sufficiently rapid, has done the same. How so successful a manufacturer of cane sugar should so completely fail, is a matter of great surprise, as those who have been accustomed to see and be present at the making of cane sugar during a succession of years, assure me that there is great similarity in the taste and appearance of the juices of the two.

Again, in regard to Mr. T.'s sugar crop, am I under a wrong impression as to the quantity of sugar raised per acre in Louisiana, or was Mr. T.'s a most extraordinary crop. My impression has always been that one thousand pounds per acre was an average yield, and that a hogshead was about the same; and I am informed by a person who has spent many years of his life in the South, that eight hundred pounds is nearer an average there than a thousand. If I am wrong, I should be glad to be set right, and if this should meet the eye of Mr. T. he will perhaps explain."

NEW FACT IN NATURAL HISTORY.—COL. THAYER, in a communication on poultry in the Massacusetts Plowman, says:—"There are several kinds of wild geese; those called 'the winter geese,' that stay in our bays till very late, and as some say during the winter, are much the largest and of a higher color than those called 'the summer geese,' and which always go to the south in the fall. I have heard of some that are *entirely white*, of a smaller size, of the same form, and make the same noise. I have never seen any of this kind, but was told by several of my neighbors, that they saw a small flock that lighted in a pond near my farm, were very near to them, and were perfectly satisfied."

Veterinary Department.

"THUMPS" IN SWINE.

Mr. J. W. Salter, of Ind., informs us that he has lost several hogs by a disease called "thumps." We have no personal acquaintance with a disease known by that name. In vol. 8, p. 32 of the Cultivator, it is stated that Dr. Shelby, of Tennessee, had used calomel for the cure of this disease, with some success; but the quantity of calomel, or the mode of administering it, is not given. If Mr. Salter is correct in supposing it to be inflammation of the lungs, bleeding, as he suggests, would undoubtedly do good, if done in the early stages of the disease. The hog is a bad subject to bleed, (except with a *butcher-knife*) though cutting off the tail and ears may answer the purpose; but in addition to that we would give plenty of physic, such as castor oil, Glauber's salts, (mixed with molasses,) or sulphur. We have had sick hogs which exhibited many of the symptoms described by Mr. Salter—heaving of the sides, hurried respiration, &c.—and have lost some; but have cured several by giving them a good dose of castor oil as soon as they were discovered to be ill. The obstinacy of the hog renders him a troublesome patient about taking medicine. We fasten a small rope to his snout, pull up his head by throwing the rope over the top rail of the fence, take a piece of hard-wood board, say three inches wide, bore an inch hole through it, force it edgewise between the jaws, and having diluted the oil with soap-suds, or other liquid, force it down his throat with a syringe.

BARREN COWS.

MESSRS. EDITORS—I noticed an article from Mr. Hezlep on barren cows. When his cow is again in heat, bleed her to near *fainting*, then give her half an ounce of laudanum and let the bull to her immediately. I have known this experiment to succeed in many instances. If it does not succeed, he had better feed his cow at once.

WM. H. SOTHAM.

HEAVES IN HORSES.

Moistening the hay or grain for horses which have the heaves, has a good effect. We see a communication on this subject in the Wilkes-Barre (Pa.) Advocate. The writer says he had a favorite horse which was much affected by this disorder. He happened to have a common horse-pail about half full of white-wash. He filled the bucket with water, and left it to settle. He moistenwith this water two quarts of corn-meal, morning and evening, which he gave the horse—filling up the bucket with water occasionally. In less than a week, a change for the better was manifest in the horse, and about two years after, he sold him as perfectly sound.

BLIND TEETH.—P. H. B. says he had a mare a few years ago that became blind, or nearly so. On examination he found blind teeth, and took them out. One eye got well, but the other remained blind.

REMEDY FOR HOVEN CATTLE.—To a quart-bottle of cold water, add a tea-spoonful of spirits of hartshorn: drench the animal with the same; if not relieved in two hours, repeat the dose. This remedy has been frequently tried and seldom known to fail.—*Eng. Paper.*

THE STUDY OF AGRICULTURE.

MESSRS. EDITORS—In that valuable work, "The School and the Schoolmaster," may be found some statements showing that in manufacturing establishments, the productiveness of labor is materially increased by the employment of educated workmen. If this is true in manufactures, it must be so to an equal or greater degree in agriculture. In manufactures, the division of labor is carried to a great extent; a single workman has but a few distinct operations to perform, and by frequent repetition, he soon acquires dexterity in the department assigned him, though his mind may be void of culture. In husbandry, the division of labor is more limited; one man performs a large number of operations widely different in their character; and hence, there is occasion for a more extensive exercise of the reasoning powers, and more ample room is afforded for the application of diversified intellectual acquirements.

We have been told that in this country, only one pupil in twenty goes higher than the common school. It is manifest, therefore, that seminaries established for the special purpose of teaching agriculture and its kindred sciences, will not confer their direct benefits upon a very large proportion of the farming population; though it must be admitted that the indirect advantages will be felt by the whole community. The great body of our farmers must depend on the common school to obtain the ground work of their education; and the superstructure must then be reared by persevering application during the leisure moments which every one can command, particularly on the winter evenings.

The day has mostly gone by, when the farmer who consulted books for information respecting his employment, was a subject of stupid ridicule. It is now generally admitted that the business of husbandry, may derive valuable assistance from a more faithful application of scientific principles. I believe the public mind is sufficiently prepared for the introduction of agricultural science, as a branch of study in the district schools throughout the State. Many years ago, this measure was recommended by DE WITT CLINTON, whose enlightened views, as is common with great minds, were in advance of the times in which he lived. The general introduction of this study into the schools, will appear to be an object well deserving the efforts of the town and county superintendents, when it is considered that so large a part of our population are farmers. The improved condition of these institutions of learning, which is confidently expected to result from the vigorous system of supervision now adopted, would undoubtedly make room for the new study, among the larger boys, without detriment to the branches hitherto pursued. In the first place, we must have a suitable text book. My acquaintance with agricultural works is not extensive; but of those which I have examined, Gray's "Scientific and Practical Agriculture," seems to be the best adapted to our purpose. As stated in the preface, this book was prepared more particularly for academies and seminaries of the higher class, and it may not be just the thing needed in our common schools. A work on this subject, for general use in the common schools, should contain only the most important outlines; for if we attempt too much, we are in danger of failing entirely. Whether Mr. Gray's book sufficiently answer's the above description, I leave to the judgment of others. It is certainly a valuable production; and the occasional moral reflections are exceedingly appropriate. If there is any work in the market, better adapted than Mr. Gray's, for common schools, I should like to have it named.

If it should be thought that a text book on agriculture could be prepared, better fitted for the use of common schools than any of the works now before the public, would it not be a good movement for the State Agricultural Society to offer a premium for such a book? If an extensive effort should be made to bring this branch of learning into the schools, it would be of vast importance to have a first rate text book to begin with. A work issued under the auspices of the State Society, would be likely to meet with favor; and perhaps the early attention to this subject, by that association, would effectually prevent, in respect to agricultural science, that diversity of text books which is the cause of so much embarrassment in other departments of learning.

Le Grange, Dutchess co., N. Y. A. R. MCCORD.

LEASING FARMS.

MESSRS. EDITORS—The practice prevails to some extent, of letting farms to tenants, and receiving in the shape of rent, a portion of the produce in kind, say a third, half, or two-thirds, varying with the amount of stock, seed, &c., furnished by the proprietor. This practice has engaged my attention for some years past; and I am constrained to say, that I think it ministers to the inherent indolence of those who are in the habit of taking farms in this way; impoverishes the land, and is an effectual bar to all improvement; for it is not to be expected that they will expend money or make much exertion where they are not to reap the immediate benefit. The landlord who thus lets his farm, will suffer the mortification and loss of seeing his farm ruined in a few years, and of receiving a *very small interest* on the money invested; and the tenant who follows this method of getting a living, will generally become a poor shiftless tool, and never be in a thriving condition. I speak from experience and pretty extensive observation on this subject; and the conclusion I have arrived at is, that every man qualified to work a farm properly, with industry and integrity sufficient to justify the confidence of others, will be sure to have a farm of his own. The practice, then, should be wholly discouraged and abandoned, both by landlord and tenant. Why should a man in our free country, where land as rich as the sun ever shone upon, can be had for $1,25 per acre, be willing to live in servile dependance on others all his days? Let him become the owner of even a few acres, and cultivate them in earnest, and he becomes at once *a man*, takes a higher stand in the scale of society, and feels that he breathes in a new atmosphere. He feels a stimulus to exertion unknown before, has *a home* for his wife and children, and prospers even beyond his hopes. But, says one, "I *must* take a farm for a few years, till I become able to purchase for myself." The fact is, he is seldom any more able at the end of three or five years, than at the beginning; and the landlord, I am quite sure, reaps but little benefit, and is compelled to see his farm deteriorating every year. Briars and thistles spring up, the bushes around stumps and in the corners of fences are uncut, the fences receive little attention, and the land is skinned and exhausted by constant cropping.

Capt. Barclay, in his miscalled Agricultural Tour in the United States, remarks upon this practice with much severity, but urges the propriety of letting farms on long leases. This may do in England, where land is valued at from $200 to $500 per acre, and mostly in the possession of the nobility. But in this country the system never has worked well; it is ill adapted to the genius of our institutions, and to form and sustain the character of an independent American citizen. Besides, such tenants as he speaks of, cannot be found; all such will be found working their own farms. The land in some parts of our country, even to the extent of some whole townships, has been worked for a series of years on long leases, but the inhabitants as a whole, have not been prosperous; and the proprietors have not realized the interest of eight dollars on land worth thirty dollars per acre. If these statements do not correspond with the experience and observation of others, let them speak out and give us the facts in their possession. H. A. P

A HINT.

ENCOURAGE your correspondents by all means, whenever they give a prescription or recipe for any disease of man or beast, never to say *some*—or a *little*—or make a strong or a weak solution. Such receipes are not only useless but vexatious, if not detrimental; beg them always to say *how much* of every thing. Let the *exact proportions* be given. I. S. S.

It is in agriculture, as in every part of creation, a wise and paternal Providence has inseparably connected our duty with our happiness.

FOOD FOR STOCK DESIGNED FOR SERVICE AND SLAUGHTER.

[The following paper which was read by Mr. E. N. HORSFORD, at the 4th Agricultural Meeting at the old State Hall, Albany, Thursday evening, April 4th, has been furnished at our request for publication in the Cultivator.]

I. It is well known that working cattle and horses perform given amounts of service with less exhaustion when fed upon grain, than when fed upon hay or potatoes.

The reason is this. All labor consists in repeated muscular contractions. No muscular effort can be performed without the expenditure of muscular fibre. Muscular fibre is composed of several elements, one of which is nitrogen, and the substance is said to be a nitrogenized compound. Nitrogenized compounds are supplied to the wasting muscle from the blood. The blood is supplied with nutritive matter from the stomach. The stomach receives its supplies from the food which the animal eats.

Grain and hay and carrots, turneps, potatoes, pumpkins, &c., differ from each other in chemical composition. The grains contain more of the nitrogenized compounds, which are consumed by the active muscle, than the potatoes and kindred agricultural products.

These nitrogenized compounds have been found to be very nearly the same things in the proportions of the elements which form them, in grains and vegetable productions generally, that they are in the stomach, the blood and the muscle. In other words, the matter to be expended in labor is formed in plants and passes to the stomach and floats in the blood, and is secreted to form muscular fibre, without any change.

Some vegetable products contain more of this matter than others, and are therefore more profitably employed as food for working cattle and horses.

The destruction of muscular fibre which takes place with each contraction, and the consequent fatigue, may be illustrated in this manner.

The muscle is a series of parallel fibres. These fibres are made of little particles arranged side by side, or end to end, all of which attract each other. Those immediately contiguous, attracting each other more strongly than those at an interval asunder. If now some of the particles be withdrawn, the contractions among the remaining portions of the fibre, are less effective than they would be if the sections were not interrupted; because the attraction at the ends of the sections is weakened by the increased distance. If the chasms were filled by the deposition of new particles from the blood, the same effort with equal energy may be repeated; and if the blood were an exhaustless reservoir, the nitrogenized compounds might be as constantly supplied to the wasting tissues as muscular effort should require. But at the close of the digestion of a meal, the supply of nitrogenized compounds is in a measure arrested; and the quantity in the blood, being a fixed quantity, determined by the kind and amount of food eaten, will in process of time be exhausted. The inability to muscular effort arises from consumption of muscular fibre, and exhaustion of nitrogenized constituents of the blood. The fatigue is the natural pain which accompanies this condition of a muscle.

This explanation, though gross in comparison with the delicate and elaborate processes constantly going on among the organic tissues, may not be altogether without service in enabling us to comprehend the demand which labor makes upon the nitrogenized and other compounds—makes upon food which contains these essentials. Other organized substances are expended in labor, and must be replaced through the blood from the food, such as the earthy matters of which bone is composed.

Some kinds of food contain these essentials in larger quantities than others, and will therefore be more profitably grown and consumed.

II. It is also well known that cattle and sheep *fatten* more rapidly upon some substances than upon others, and that the food which will sustain much physical labor, is not necessarily the food that will fatten most expeditiously.

To know what kinds of food will most advantageously increase the flesh, the mere fat of stock designed for slaughter, and what admixtures of the two kinds of food are best adapted to sustain a good coat of flesh and yet permit vigorous service, is obviously of no small importance.

Prout, anxious to know what kinds of food and what proportions of those kinds were best adapted to the physical development of animals, commenced his investigations by an analysis of the human milk. He found it consisted of three substances dissolved in water; one of these containing nitrogen, and the other two destitute of nitrogen.

The nitrogenized substance is called *caseine*, and is the basis of cheese. The other two substances were *sugar of milk* and *oil*.

The oil is separated from the other two by agitation, and the particles aggregate in the form of butter.

The sugar gives the sweetness to new milk, and in the fermentation which succeeds, gives rise to the acid principles observed in milk after standing a day or two.

The caseine or basis of cheese being the only organic principle that could form muscle or tissue of any kind, because the only one that contains nitrogen, the other two substances must have another office to perform.

The oil of the milk is deposited in the form of fat, around the muscles and under the skin, and the sugar, except a part of it, being converted into fat, is gradually resolved into the various secretions, tears, mucous, saliva, perspiration, &c.

The use of the oil and sugar as types of the two great classes of oleaginious and saccharine food, have been made an interesting subject of investigation, and shown to be the source of heat in the animal body.

The use of the caseine as the type of the nitrogenized or albumenous compounds, has already been referred to. It makes the muscle, the tendon, the tissues, brain and integuments.

The appetite demands an admixture of these. Bread is chiefly composed of starch and gluten—substances allied to sugar and caseine. Civilized men, every where, overspread the piece of bread with butter or oil, that the three kinds of food may be mingled. Rice must be eaten with butter or sugar. Potatoes with gravy, which consists of the expressed nitrogenized juices of meats. A meal cannot be made, the laborer feels, without meat for the nitrogenized constituent, the *caseine;* potatoes or rice or bread for the saccharine ingredient, the *sugar;* and butter or gravy for the oleaginous constituent or the *oil*.

The student, whose muscles make no expenditures, thinks the meat non-essential. He can live on bread and ale.

The Greenlander who fears the severity of his high northern latitude, thinks oil the great essential, and devours pure fat and tallow with a relish akin to that of more southern men for sugar.

To return. Some kinds of food are better adapted to fatten cattle and sheep. Why? Because they contain more oil.

Some are better adapted to sustain cattle in labor. Why? Because they contain more of the substances expended in service.

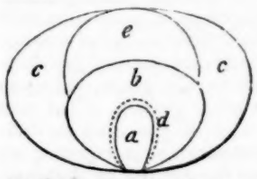
III. It is not only true that different kinds of food contain in unequal proportions, the caseine, the oil and the sugar; but also true that varieties of the same grain have them in varying proportions, and the same variety of grain has them in unequal proportions if grown upon soils of unequal fertility; and even in two successive seasons, one season being adapted in the amount of its sun shine and dew and rain, to advance the crop and bring out a large return, and the other with its cloud and mildew and drouth fitted to shrivel the stalk and starve the kernel.

The grain of corn may be dissected so as to display the several principles of which it is composed.

The cotyledon or embryo, contains the earthy matters, and most of the nitrogenized substances that contribute to the formation of the organic tissues in general.

The circle immediately around the cotyledon contains a salt of a per-oxide of iron.* This is to serve in coloring the blood. The bulk of the seed is composed of starch and oil. The oil goes to fatten, the starch to sup-

ply matter for various secretions, and to some extent to form fat. Mingled with the oil and starch in some varieties of corn, is a third nitrogenized substance, called zeine.



Section of grain of corn.

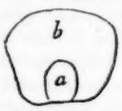
a. Cotyledon.

b. Starch.

c. e. Oil—sugar—zeine.

d. Salts of iron.

In the associated diagrams, several varieties of corn are presented, and the relative proportions of the several substances that compose them.



Tuscarora corn.

Sweet corn.

Northern yellow corn.

Pop corn.

In the use of these varieties of the same grain, it is easy to see that given weights of each might be profitably employed, if different objects were to be accomplished. They could not all be employed to fatten with equal advantage.

If it be desired merely to fatten an ox, he should be fed with that corn or grain which in 60 lbs. contains the most oil. If he is to be worked, he should be fed with corn which contains the largest cotyledons, for they contain the capital for labor. If he is to be merely inflated, without producing either fat or muscle, let him be fed on starch and water, or on a grain whose cotyledons are small, and in which the oil is wanting.

From what has been said, how essential does an analysis of the different kinds of grain become, that it may be known, which naturally contains most starch, most oil, or most gluten? And that the essentials of soils that are to produce those grains, be known, that the deficiencies may be supplied or noxious ingredients neutralized?

In other words, how manifestly important that science be interrogated upon subjects of such vital interest to the agricultural community, as the raising of stock and the growth of crops.

SOWING CLOVER SEED—CURING HAY WITH SALT.

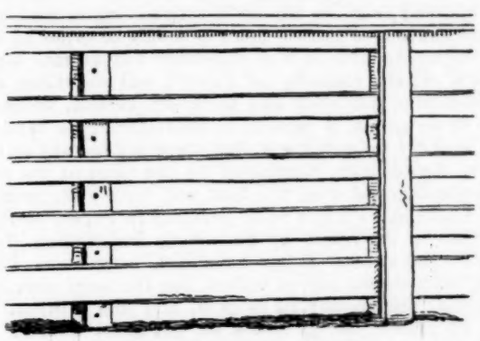
Messrs. Editors—On reading Mr. R. L. Pell's letter in the Cultivator for March, (page 97.) I take up my pen to show that some of his opinions are wrong, and some of his practices are actually *cruel*. First, he says, "when preparing meadows or upland, I usually seed on wheat, sowing in the full half a bushel of Timothy seed to the acre, which is limed at the rate of three hundred bushels, and the following spring, after a moderate fall of snow, sow one bushel of clover seed," &c. Now, if Mr. P means one bushel of clover seed to the acre, (and the letter reads so,) this is altogether wrong; as half a bushel of Timothy seed, and 5 pounds of clover seed, would be sufficient for any land I ever saw in this country. After telling the time he cuts his grass, he says, "the grass thus cut is drawn immediately into the barn, and *one bushel* of fine salt spread by hand over each alternate layer composing a *ton*." Now I maintain that the quantity of salt he puts on actually *punishes* the poor animals that have to eat the hay, in a cruel manner. Yet eat it they *must*, if they have nothing else, or *starve*. Some 14 years ago, I read in some paper, this mode of curing hay, and I tried the experiment by commencing to feed 612 sheep with hay so cured. It took me all of an hour and a half, each day, to pump water for them, and then, after drinking till they were like to *burst*, they would, in cold days, stand and shiver for hours; and I believe, if I had not changed their feed to something else half of the time, that so much salt would have killed a number of them.

I make no doubt that Mr. Pell is honest in his intentions. I am altogether unacquainted with the gentleman; but I think he must be one of those farmers that tell men to do so and so, but who neither helps do it, nor sees that it is done, else he would see the impropriety of sowing a bushel of clover seed to the acre, and salting his hay so *unmercifully*.

I will give you my mode of curing hay. When the crop is heavy, I spread it as soon as cut, if the weather is good, and let it lie until it is pretty well wilted, then cock it, and let it cure in cocks, only turning them over to let them have an hour or two of sunshine before loading them. If the crop should be light, I let it wilt in swath. When drawing in, I put about a quart of salt to a wagon-load, which is sufficient salt for the sheep while eating the hay. John Johnston.

P. S. I received Mr. Pell's letters in answer to my inquiries about charcoal, for which I return my thanks. If I live, I will send him some seed wheat of both kinds, in time for sowing. J. J

New Geneva, March, 1844.



STRONG BOARD FENCE.

Tne common board fence, made by naling horizontal boards to posts, is often broken by the failure of the nails. This difficulty is partially obviated by nailing an upright face to the post, consisting of a piece of board of a length equal to the height of the post, outside of the horizontal boards. A method, scarcely costing any more, by which the strength and durability of the fence is admirably improved, consists in placing small pieces or blocks a few inches square, in the spaces, on the post, between the boards. The whole thus forms a smooth surface, to which the facing board is fastened, and the fence boards thus so completely secured to their place, that their removal is rendered impossible, while the fence remains upon the post. The blocks thus used for filling up, may consist of small fragments which are otherwise wasted. The above figure represents this mode of construction; the right hand post showing the blocks in place before the facing is nailed upon them, and the left hand, the whole completed. J. J. T.

PROFITS OF POULTRY.

Messrs. Editors—Having previously kept only the common kind of fowls, Mr. R. procured last year, a pair of crested Polanders, making, with those we before had, 28 fowls. We killed some occasionally, till the chickens were large enough to be eaten, when we had 20 old ones left. We raised over 100 chickens—half and full bloods together. Our early pullets commenced laying in the fall—none of them wanted to set. According to our account kept, we sold from Jan. 1, 1843, to Jan. 1, 1844, 1,866 eggs, and received $19 for them. We kept no account of food consumed, but gave a liberal supply.

Perhaps I ought to apologize for thus troubling you; but we have had your Cultivator so long in our family, that it scarcely entered my mind while writing, that *personally* we are strangers. Yours respectfully,

Prudence Reynolds.

Stamford, Ct., Feb. 24, 1844.

* Dr. Jackson's paper before the Assoc. Amer. Geologists and Naturalists

DETRUNCATION OF THE ROOTS OF PLANTS.

MESSRS. EDITORS—The Jan. number of the Cultivator, has induced me at this time to make a few remarks upon the cutting of the roots of plants, which our friend Dr. Cloud, admonishes his neighbors upon doing, and as I may have to traverse partly the same ground that I have heretofore, I hope that yourselves and your readers will excuse any repetition, if such should be found necessary. I have heretofore given two laws of nature, upon which I supposed Mr. Comstock based his improved system of "Terra-culture;" and in referring to these, I have no other apology to offer, than their importance to our every day work upon our farms; for if in nature, all arable lands are covered with vegetable growth, is it not evident that our practice should conform so far towards her example in this respect, as to keep our soil as well covered as the nature of our crops will admit. Do we attend in this respect, to nature's teaching, in our hoed crops? I think not; they are generally planted at such intervals, seed from seed, as to admit of luxuriant growths of weeds—which it appears to me nature intends for a protection to the soil—and these weeds have to be kept in check, by the frequent use of the hoe or plow, or they would otherwise injure the crop. In eradicating these denominated pests, do we not disturb and injure the plants we are anxious to grow? there is a law or order of nature, requiring both in the vegetable and animal kingdoms, a certain maturity of growth and distention and completion of absorbent and secretory vessels, before a plant or an animal is capable of reproducing its kind by seed, and my impression is, that there is generally an extensive depredation committed by the tiller of the soil, upon plants, abusive of this law, and with your permission, I will make a few brief remarks in regard to injuries done to the roots, by disturbing and cutting them with the plow, &c. It has been said, long since, I believe, but I cannot say by whom, that the more mouths a plant has, the greater its growth, and this I think, we will all admit; but to obtain an increased number of mouths, it was proposed to cut and lacerate the roots, so that they might branch out and thereby form more mouths, and these being pushed into new situations in the soil, was considered highly advantageous; this in some districts of our country, is a popular error of the present day.

How far the cutting of the roots would be conducive to the growth of a young plant, is not my present purpose to inquire; but at the time the pubescent state of the plant is attained, and possibly before this time, every root that is cut lessens instead of increases, the number of mouths or absorbents for the use required by the farmer. At this stage of growth, the farmer wants a deposit of matter for seed or fruit, and the absorbents of the newly formed succiferous roots, do not appear to furnish this matter to the plant. The new roots or rootlets must have time to pass from their papescent state, to one of a denser medium before they can be organized for the conveyance of matter for seed or fruit, and during this period, the upper part of the plant must suffer in proportion to the injury, and it is very doubtful whether any of this matter is conveyed through the original channels of all plants, as for instance, a depredation of this kind committed upon the apple tree, induces new shoots from the trunk, or from some one or more of its main branches, instead of any accelerated increase of the previous growth, or if the end of the root cut off is drawn to the surface, a new plant is there formed, and the injury on a good soil, is not otherwise perceptible in the woody fibre, unless these shoots or sprouts are not sent forth by nature; in that event, some of the branches go into decay, and this is more particularly the case with old than younger trees, for like the animal system, the vigor of youth is capable of sustaining disease, that would be vitally destructive to old age. The corn plant is capable of overcoming an injury to the root, in a great degree if not wholly, while young, by the formation of a new plant, which we denominate a sucker; but this plant in a more advanced stage of growth, refuses to throw up suckers; what then is the result of the injury? does the root go into decay, or does it communicate disease, by conveying the papescant matter, afforded by the new succiferous roots, into the body of the old plant, and the vital principle being unable to reject it, does it change the requisite juices of the plant into an unhealthy state? My own conjecture is, that the new roots do convey extraneous matter, that the plant upon poor or medium soils is unable to reject, and produces a disease that hastens the plant into early maturity and decay and thereby preventing the proper elaboration of matter for grain; but upon soils producing a rapid and luxuriant growth, gives such vigor to the plant, that the vital principle finds no difficulty unless the injury is very extensive, in rejecting all matter foreign to her wants, and the loss felt by the plant, of the root cut off, nature soon overcomes by an increased absorbent power given to the other roots; therefore, plants are less injured by roots being cut upon rich land, than upon poorer land. Upon rich land, and when the plant is making or preparing to make, either fruit or seed, an injury to the roots produces a slight cessation in the growth; but this soon reassumes its work, and a casual observer would not notice that any change or cessation had taken place.* But upon poor land, or land deficient in an abundant supply of material for the immediate wants of the plant, the injury soon becomes evident in the upper part of the plant, either in its seed, fruit, or woody fibre.

I am strongly impressed with the belief that the fungus growing upon our cultivated plants, is frequently from this cause; that is, the extraneous sap proceeding from an injured root, is thrown out upon the upper part of the plant and forms a fungus; but my experiments for this purpose, are not sufficiently full to admit of my expressing such an opinion as I would desire. I wish to be understood in regard to this fungi, as not taking in the whole cryptogamia class; but only such fungus as affects our agricultural productions. As this is a subject worthy of research, will not some of your learned subscribers interest themselves for the public good, by making suitable experiments to ascertain whether this suggestion is correct. I am aware that much of this fungi, has been attributed to animalculæ; but from whence does these animalculæ spring, are they not the effect, instead of the cause of these fungi? With much respect, your friend,

Ararat Farm, Jan. 9, 1844. LYTTLETON PHYSICK.

* This check in growth can be readily seen in the corn plant, by taking two stalks of equal growth and forwardness, at the time the tassel is just discovered, at which time the brace roots appear; by cutting these off, or any other roots, the difference in growth is soon discernible.

MANURES.

MESSRS. EDITORS—One of the most important subjects to the Long Island farmer, is the making and management of manures. It is true a decided improvement has been made upon the old fashion of foddering cattle in the open field, by substituting snug yards with hovels sufficiently large to protect the cattle from storms; but this does not prevent the most valuable parts of manure from leaching off and wasting during heavy rains. I would advise all who have advanced no farther than this, and I know there are many, to have one animal stabled every night through the winter, and then when the manure is carted out, to spread one load from the stable adjoining, an equal quantity from the yard, and witness the difference; my word for it, it will be found that the latter, like the corn which I spoke of in another communication, has been soaked too much.

With horses, probably the old method (of allowing the manure to remain in the stable as long as the horse can climb in at the door,) is as good as any for the purpose of making manure, but as standing and sleeping upon the fermenting manure is sadly uncomfortable to the animals, it is a sufficient reason for the change which has been made. The general practice now is, to throw out the manure once a day and allow it to collect in a large heap until wanted for use; in this way, its enriching qualities are much impaired both by leaching, and the escape of gases during fermentation. A decided improvement will be found both in quantity and quality, by having it drawn out once a fortnight and put in a snug heap in the field where it is wanted for use, covering the heap

each time with a thin layer of dirt, plaster or swamp muck as may be most convenient or desirable.

The above is not mere theory, but has all been tested from worst to best in the practice of one who took his first lessons in farming at the plow-tail, and who feels happy in acknowledging that for whatever advantages he may have derived from these and other improvements, he is mainly indebted to yours and other agricultural publications. Respectfully yours, K.

IRRIGATION.

In answer to the call for information on this subject, by our correspondent J. S. S., ALFRED L. KENNEDY, Esq., has sent us the following extract from a Lecture on the Agricultural Utility of Water, which he delivered before the Delaware County (Pa.) Institute of Science, Dec. 1843, for which he will please accept our thanks:

"The practice of irrigating grass lands by means of the water from springs and brooks, is one of the most frequent, convenient and efficient means of fertility possessed by the farmer. It requires no expensive machinery, and is of the most simple application. It has therefore found favor in the eyes of practical men; and the wonder is not, that it should prevail so extensively on grazing tracts, but that it should not long since have been applied to other crops. European agriculture furnishes us with the details of the plan to be pursued, and its most happy results. And the recent experiments of intelligent foreigners, should not fail to meet with a ready response from our own countrymen.

Water acts in irrigation, by keeping plants supplied with that moisture so favorable to their freshness and beauty. It also acts by dissolving certain gaseous bodies and conveying them to the roots of plants—by removing foreign matter which has been deprived of fertilizing properties. One of its chief means of utility, however, undoubtedly is the solid matter, which it holds in solution and imparts to the herbage.

This will appear perfectly reasonable, if we consider how springs are formed.

The rain in descending, dissolves of the gases contained in the air, more or less, and among those especially, that known to chemists as carbonic acid gas. Falling upon the earth, it percolates through until it arrives at a bed of clay or some other impervious deposit. It there accumulates until enabled to force a passage to the surface. Throughout its subterranean course it is adding to its mineral contents, and gushes forth saturated, that is to say, containing as much as is possible of the rocks with which it has been brought in connection; whether they possess a silicious, aluminous, magnesian or calcareous character.

Although geology is very far from being a science of experiment, yet in the present consideration of its connection with agriculture, we are not left without witness to the position laid down that much of the utility of irrigation depends upon the solid matter dissolved in the water. I need but refer you to experiments made in Scotland, and apparently with great care, to determine this point.

The water, prior to irrigation, was analyzed, and yielded per gallon 10 grains common salt, and 4 grains limestone. The water after passing over 50 yards of meadow was also analyzed and found to contain but 5 grains common salt and 2 grains limestone in the gallon. One-half, or 5 grains of the former and 2 of the latter had been deposited by every gallon of the water, and granting that one hogshead passed in 24 hours over every yard in width of the 50 yards descent of meadow (a very moderate estimate) we have deposited over an acre in the same time 5¼ lbs. of the one, and 3½ lbs. of the other, or 1890 lbs. common salt and 756 lbs. limestone per annum. What a slow and continuous marling or liming of our soil is thus almost insensibly produced! The better, because of being intimately mingled with the earth, and gently and constantly applied.

This view involves nothing to which the farmer can for a moment hesitate to yield assent. In fact it is in perfect consonance with his every day experience of the effects of lime and the alkalies.

Now it is not pretended that the proportions of the ingredients mentioned, will be the same in all springs, or that even the ingredients themselves will always be found, yet as water is seldom pure, but generally holds in solution what chemists term salts, whether of magnesia, soda, potash or lime, there remains no obstacle to the reception of the views advanced, throughout the greater portion of our wide spread country.

Again, as before stated, of all the constituents of the atmosphere, carbonic acid gas is the most readily dissolved by water. It imparts to the water of springs, their sparkling brilliancy and flavor; its presence is therefore well known. This gas thus dissolved, was presented by Sir Humphrey Davy to the roots of plants, and we have the most direct testimony of his experiments to assure us is a most efficient aid to vegetable growth. In this view, the most eminent scientific authorities since his time, have coincided. In irrigation, nature is but exhibiting on a magnified scale, the experiments of Davy, in constantly presenting to plants fresh portions of spring, i. e. of carbonated water. Now we need not pause here to discuss the *manner* in which this gas thus presented, is assimilated by plants. It is sufficient for us to know the *fact*, and we are then satisfied of another advantage of irrigation.

Nor must we forget that spring water sometimes contains one of the products of putrefaction, ammonia, and of thunder storms, aqua fortis or nitric acid. Both ammonia and nitric acid, theorists to the contrary notwithstanding, have been repeatedly proved to be fertilizers.

Whether we adopt the excretory theory, i. e. the theory which supposes that plants reject from their systems those substances which are injurious, and that this vegetable excrement in time poisons the soil contiguous to their roots; or whether we adopt it not, and say that soils become incapable of constantly reproducing the same vegetation, solely because of the abstraction of nutriment, we cannot but feel under obligation to water for yet another important service. If the former hypothesis be received, then irrigation removes the rejected matter from the roots of plants, and supplies its place. If the latter, then it removes or re-invigorates the non-fertilizing earth.

Finally, and perhaps most important. Throughout the existence of a plant there is no period save its early infancy, in which it is more susceptible to external injury, than that of flowering and fruiting. Nature makes her greatest effort and requires the most assistance as the plant's life, and the farmer's hopes approach consummation. Unfortunately, at this very season, the earth is not unfrequently hardened and parched by heat and drouth, and vegetation is incapable of drawing from the callous bosom of our common mother the much needed supplies. Then does irrigation act as a friend in need, by softening the soil, supplying it with air and moisture, enabling the tender roots freely to penetrate, and to absorb invigorating stores of nutriment. 'But,' says one, 'would the speaker have us irrigate our grain crops?' There is nothing unreasonable in the proposition—no reason why to them it should be less advantageous than to grass. Permit a reference to the fertile valley of Durance in France, remarkable for its products and for the industry of its inhabitants:*

"Amongst the very various rotation, wheat is frequently sown, keeping very nearly to the following method which I have seen practiced in Sicily:

"The period of sowing takes place in the beginning of November. The seed is sown upon the land which has been prepared and manured, or sufficiently improved by preceding culture. The ground is divided into ridges or beds from 3 to 6 feet wide, and each ridge is separated from its neighbors by a space of 10 inches opened to the depth of 2 or 3 inches by a single stroke of the hoe, in order to let the waters destined for irrigation pass off In spring, when the wind has dried the earth, when rain is wanting, the average heat exceeds 54 deg. Fah. The water is introduced into the spaces opened between the ridges, and it is retained there sufficiently long to pene

* From M. Le Comte de Gasperin's paper in the Memoires de la Societe' Royal et Central d'Agriculture, as translated by Mr Boswell in the Journal of Agriculture, Edinburgh, Oct. 1843

trate through and through by filtration; but abstaining from all submersion which would thicken the earth and hinder vegetation. This irrigation which may be called subterranean is repeated, if it is perceived that the plants suffer by drouth, but it rarely takes place more than twice, and frequently is necessary but once.

"The beauty of the vegetation leaves the cultivator but one fear—the lodging of the grain; but notwithstanding this risk, the harvests are so fine and abundant that the farmers are not deterred from following it. When the harvest is gathered in at the end of June, the ground is laid under water, and after allowing it to sink in and dry for two or three days, it is plowed, and beans, potatoes and maize or Turkish wheat and millet are sown, which they treat in the same manner. The second harvests produced by the advantage of a soil that has been thus refreshed during the hottest months of the year, July, August and September, are of great value."

PHILOSOPHY OF WOOL NO. IV.

TRUENESS.

The quality of trueness of the staple especially enhances the value of every grade of wool in which it is found. It comprises an equality of the diameter of the fibre from the root to the point, and uniformity of the fleece generally. When the filament greatly lacks in this particular, it may be ascribed to an irregular and unhealthy action of the secretion of wool, which, in turn, must be attributed, in general, to abuses in management of the sheep. For instance, if the animal has fared kindly till the winter season, and then exposed to storm, and cold, and withal ill fed, the growth of that part of the fibre during this period, will be considerably diminished in diameter, proportionally weak, and when examined by the microscope, presents a withered appearance. On being turned to pasture, the fare being better, and the secretions again becoming healthy and abundant, an enlargement of the fibre follows; but it is greatly destitute, from the causes stated, of the quality of trueness, and therefore debases the value of the whole fleece. The weak and withered parts of the fibre are termed *breaches*, and injure materially every manufacture in which it is employed, the felting property being deteriorated, and the cloth having less strength and softness. The skilful stapler and wool-buyer will, on critical examination, easily detect this serious fault, and prize the wool accordingly. By pulling asunder a single fibre, the break will uniformly be confined to the *breachy* or withered point. This is termed *unsound* wool.

Although this description of wool is generally, as remarked, the result of bad management of the flock, yet it is common to all good sheep. With the Saxon and Merino, after the ewes, particularly, pass the age of eight or nine years, the yolk lessens in quantity, which is followed by comparatively a hard, inelastic, unyielding, character of the wool, with the strength and weight greatly diminished. Therefore, notwithstanding the singular longevity of these breeds, it is better to pass them over to the butcher, when arrived at the age mentioned.

Intimately connected with producing a sound and true staple, is the

INFLUENCE OF TEMPERATURE.

It cannot be doubted that equability of temperature is an important agent in perfecting the several properties of wool. The Spanish custom, continued for centuries, of driving the sheep in the spring to the northern and mountainous parts of the kingdom, which are there kept until the approach of winter, originated in part from the conviction that this theory was sound. Indeed, it is founded in the natural instinct of the sheep. Every one knows it is impatient of heat. In the midst of summer, in all latitudes where it is found, it will seek the most elevated points for the sake of the cooling breeze, and retire to shades to guard itself against the burning rays of the sun. In winter it will flee to a place of refuge from storms and cold. All this testifies strongly in favor of the correctness of the premises. But the question may be asked, what has the bodily comfort of the animal to do with perfecting the several properties of the fleece? The answer is every thing. If health and thrift are promoted by equability of temperature, the cutaneous glands are alike healthy, and a regular and even growth of the fibre naturally follows.

But strictly speaking, equability of temperature is nowhere to be found; therefore, in our rigorous and changeable climate, the fibre of wool must ever present a greater or less inequality of diameter between its extremes. It is remarkable that the point has always the largest bulk. This is the product of summer, after shearing time, when there is a repletion of the secretions which produce the wool, and when the pores of the skin are relaxed and open, and permit a larger fibre to protrude. The portion near the root is the growth of the spring, when the weather is getting warm; and the intermediate part is the offspring of winter, when, under the influence of the cold, the pores of the skin contract, and permit only a finer fibre to escape.

An author remarks, "The variations in the diameter of the wool in the different parts of the fibre will also curiously correspond with the degree of heat at the time the respective portions were produced. The fibre of the wool, and the record of the meteoroligist will singularly agree, if the variations in temperature are sufficiently distant from each other for any appreciable part of the fibre to grow."

It legitimately follows from the foregoing observations, that a hot climate is unfavorable to the continued productions, for any length of time, of *fine wool;* and therefore, the opinion that wool of the Saxon and Merino can be grown in every degree of latitude in the United States, without deterioration, is obviously fallacious.

In confirmation of the general fact as to the influence of climate on wool and hair, the remarks of Mr. Hunter, an English author of high authority, are quoted: "Sheep carried from a cold to a warm climate soon undergo a remarkable change in the appearance of their fleece. From being very firm and thick, it becomes thin and coarse; until at length it degenerates into hair. Even if this change should not take place to its full extent in the individual, it will infallibly do so in the course of a greater or less number of generations. The effect of heat is nearly the same on the hairs of other animals. The The same species that in Russia, Siberia, and North America, produce the most beautiful and valuable furs, have nothing in the warmer climates but a coarse and thin covering of hair."

The above may be questioned by some, and Australian wools referred to as proof that the Saxon and Merino have vouchsafed to them some peculiar qualities of adaptation to every variety of climate, It is hardly necessary to say that this opinion is grounded upon a want of accurate and critical knowledge of physiological science, and other information bearing directly on the subject in point. The climate of New Holland or Australia, a British possession, is not hot but rather of a temperate character, and especially that portion of it where sheep are kept, being between, including the eastern point of Van Dieman's Land, the 43d and 32d degrees of south latitude. But notwithstanding its temperate and equable climate, compared with the more southern portions of our own country, yet Australia wools have deteriorated in fineness in comparison with the Saxon stock, from which many of the sheep in the colony originated. Although as recent as 1815, when the first exportations to any considerable extent were made from Germany, the fibre from a sample of picklock Australian wool now measures 1. 750th part of an inch in diameter—the same as Spanish Merino—whereas, one from picklock Saxon is but the 1. 840th. Considering the brief space of time, this shows a rapid decidence in fineness. Furthermore, a rapid deterioration in the felting property is equally manifest, the serrations being only 2400 to an inch, less by 150 than the average of picklock Merino, and 320 less than the same sort in Saxon. This fact confirms the observations of Mr. Hunter, and establishes the position that the climate of Germany, and the northern and middle States, with suitable protection in winter, as being the most conservative of the properties of extreme fineness and felting of wool. This subject may be further discussed hereafter.

The *felting property* of wool will constitute an important chapter, which will follow. L. A. MORRELL

Lake Ridge, Tompkins Co., N. Y.

COMPARATIVE SHRINKAGE OF SAXON AND MERINO WOOL.

MESSRS. EDITORS—A correspondent of yours, signing himself "Wool Grower," publishes in your last number, a letter from Samuel Lawrence, Esq. in which it is stated that "*American Paular* (merino) *wool*," will shrink from 40 to 45 per cent in scouring. As this is a much greater loss than the public would be prepared to expect, it may be inferred that other wools do not shrink to any think like an equal extent. To prevent any such misapprehension, I give you the following extracts from letters received by me from Mr. Lawrence.

Oct. 16th he says:—"American Saxony wool washed in the usual way will shrink from 33 to 37 per cent. We have just scoured Mr. Morrell's wool of Tompkins Co., and it yields 66¼ lbs. to the 100. *The finest sort yielded but* 62½ *lbs.* This is considered one of the best flocks of Saxon wool in Western New-York, and the condition of the wool was very good indeed. American Merino wool *washed in the usual mode* will shrink 40 to 45 per cent, say an average of 42 per cent."

Oct. 28th he says:—"The difference in the shrinkage of Saxony and Merino wool is from 5 to 7½ per cent, when *equally well washed* on the back. The "dark ends" or "crust" on Merino wool do no injury to the staple, but cause it to shrink more than if the ends were clean."

Yours truly, HENRY S. RANDALL.

Cortland Village, April 4, 1844.

MANAGEMENT OF COWS, &c.

MESSRS. EDITORS.—I am not a first rate farmer, yet there are some things that I think I know a little about. I think I know that no other kind of stock should be suffered to run in the same pasture with cows; particularly hogs, for they wallow in the water, and spoil it for the use of the cows; and moreover, the mud that adheres to them when they come out of the wallow is carried over the grass, which renders it unfit for the cows to eat. I do not think well of a very frequent change of pasture for cows; for they will soon become so uneasy as not to be satisfied with the best you can give them. Let them have a range large enough so that the pasture will always keep ahead of them, and they will be satisfied and milk as well, if not better, than when their pasture is frequently changed. After harvest, when the grass is not so fresh, it will be well to change sometimes, but not very frequently. Cows that are giving milk, are great eaters; they also require plenty of water and plenty of shade in their enclosure, with salt about twice a week.

BREAKING HEIFERS.—Many a promising heifer is rendered unfit for the dairy, by improper management in breaking to the pail. They should be allowed to run with the cows one summer before you expect to milk them, and be driven regularly into the milking yard, and those who do the milking should frequently soothe and handle them, and treat them at all times with kindness, and there will then be no need to drive them into a small pen and have them held or tied to a post, or coaxed with a "mess," &c., whilst they are being milked. All such practices are very apt to teach them some bad habit that they will never forget. I know of no animal that is more a "creature of habit" than the cow.

HORSES.—It is sorrowful to see the abuse and cruelty that is practiced by some on this noble and useful animal. A great many valuable horses die yearly from improper treatment alone. Those who have the care of horses, should work them moderately, feed and water regularly, and give them salt at least twice a week. I believe that three-fourths of the diseases of horses are brought on them by improper treatment. Much has been said from time to time about the diseases of horses and their cures. I have always found it much easier and better to try to prevent, than to cure them.

BREAKING AND MANAGEMENT OF COLTS.—They should be treated kindly and taught a little at a time. First teach them to stand tied or hitched, and be sure that the halter is strong enough to hold them, for if they break the halter a few times, they will never forget it; and a horse can hardly have a worse practice than that of breaking loose whenever you hitch him. Next, they should be taught to lead well, for if they do not learn to lead when young, they will never lead well. They may be ridden a little at two and a half years old, if the weather is cool; in riding, always teach them to walk well before they are put to any other gait. Be careful not to scare them by throwing on the saddle, or in mounting. When you wish to break them to work, put them in a team with horses that will not baulk, and put on no more load than the rest of your team can draw. They should be worked a few days in one place and then changed to another; as by this means you may have horses that will work in any place you may choose, or have occasion to put them, and they will be doubly valuable for it. If your colts should be a little unruly when first geared up, never mind it—*do not strike them.* All young animals, (children not excepted,) can be managed best by the law of kindness.

C. H. HALL.

Bluerock, Muskingum Co., Ohio, March 5, 1844.

PRINCIPLES OF BREEDING.

MESSRS. EDITORS—I have noticed in some of the back numbers of the Cultivator, the rules of breeding as laid down by Cline, with which, if I understand them properly, I cannot agree. He says it is wrong to breed small cows to a large bull, or to use his own words, "crossing has only succeeded in an eminent degree in those instances in which the females were larger than the usual proportion of females to males."

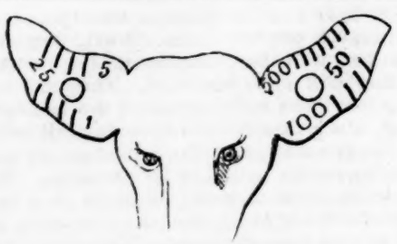
My experience differs from this; and to sustain this difference, I will refer you to an extract from the agricultural tour of Count de Gourcy in the north of Scotland, a notice of which, I lately saw in the Cultivator. He says "Mr. Watson at Keylor, keeps about twenty of the mountain or Highland cows, which he breeds to a Short Horn bull, and it is astonishing to witness the results of this cross, of a *large male* with *small females. The success in every respect is beyond a doubt.*" In the second place, who has not marked the decided improvement in the progeny of a Short Horn bull and the Devon cow—"Indeed," says some writer, "I never knew any of these bulls put to any cow where the produce was not superior to the dam. But the cross which I advocate, and with which I am best acquainted, is with the Devon cow." And farther, it is known that the Rev. Henry Berry of England, is much in favor of this cross. And again, I have observed that the improvement made by crossing the Short Horn upon our native stock, is *most* perceptible when the cow is a small tight made animal; the calf, in that case, being more compact and finer formed, than the produce of a cow nearer the size of the bull. Now what I wish to know is this; how to reconcile this clashing between what are laid down as the true principles of breeding, and actual experience.

I have written this in the hope of eliciting from you a few remarks on the subject. B. H.

Georgia, March, 1844.

NOTE.—We do not suppose that the principles of breeding laid down by Cline, have ever been universally admitted, even among eminent stock-breeders. The point alluded to by our correspondent, is not settled. In England, we find the celebrated Short Horn breeder, Thomas Bates, opposed to Cline's theory; while the equally celebrated breeder of Herefords, the late John Price, was in favor of it. Our correspondent has mentioned the late Rev. Mr. Berry, as having been in favor of the cross of Durhams with Devons. We wish he had given us some reference to Mr. Berry's writings showing that he was in favor of this cross, as we do not recollect anything of the kind. We should expect a better formed progeny from compactly made cows, than from loosely made ones, whatever might be their size, especially if the bull was rather more loose in his make than he ought to be.

NORTH DEVON OX.—An ox of the North Devon breed has been lately exhibited in England, which was 18¼ hands high, and measures, as it is said, four feet from hip to hip, and is still growing.



REGISTERING SHEEP.

The above cut illustrates the German mode of ear-marking and regularly numbering the sheep belonging to a flock, so that each individual can be distinctly registered.

Each slit in the lower rim of the right ear represents,					1
do	upper	do			5
do	lower	left			100
do	upper	do			500
The central hole in the right ear,					25
do	left				50
In the above figure					
7 slits in the upper rim of the left ear,			500	each	3500
4 do	lower	do	do	100 do	400
The central hole in			do		50
4 slits in the upper rim of the right ear,			5	do	20
4 do	lower	do	do	1 do	4
The central hole in			do	1 do	25
Number of the sheep,					3999

AN AMERICAN HERD BOOK.

The inconvenience arising from the want of a work of this kind is already greatly felt in the United States; and with the rapid multiplication of our herds, is continually increasing. There may now be estimated, at least two thousand thorough-bred Short Horn cattle on this side the Atlantic, distributed in the hands of perhaps five hundred different breeders. These animals, in most cases, have been selected from among the best herds in England, and imported at great expense; and their descendants widely disseminated into every State of our Union, and the Canadas. Strict attention has been given to their breeding, and great care bestowed to maintain their original excellence. The climate and soils of America have proved congenial to their growth, and from the rapidity with which they have multiplied, and their present comparative cheapness, we may anticipate that but few further importations will be made from abroad. Still, the decided advantages conferred upon one of the most important branches of our agriculture by the introduction of the Short Horns into this country, have distinctly established them as a race to be perpetuated in their purity; and the progressive improvement in American husbandry is a sufficient guaranty that they will hereafter maintain their exalted character in elevating the standard of American cattle.

So important was it esteemed by the Short Horn breeders of England to establish and record the lineage of their unrivalled herds, that in the year 1822 the first volume of Coates' Herd Book was published, containing the pedigrees of over 2,500 animals; and so strongly has the public mind sanctioned the utility of the work and its continuance, that three successive supplements have from time to time been issued, and another is now in the press, embracing altogether, a list of probably 12,000 cattle.

In the great mass of these, the American breeder has little interest; although from the absence of a domestic record, many of our citizens have encountered the inconvenience and expense of transmitting a list of their herds to England for registry. A moment's reflection will convince us of the absurdity of a perpetual dependence upon foreign records for the pedigrees of American stock; and the great expense of obtaining the entire English herd book, comprising five large volumes, at a cost of not less than forty dollars, are subjects not unworthy of consideration; add to this, the probability of errors in printing the registry at such a distance, where corrections can hardly be made, together with the possession of no greater assurance for the integrity of the records than may be found at home, and the propriety of at once establishing an American Herd Book, will be apparent.

A work of this kind has long been agitated by various gentlemen connected with cattle breeding in America; but no one has hitherto ventured the experiment, although earnestly called for by a numerous body of breeders.

Its demand then being conceded, it remains to be seen whether the public will sustain an effort to accomplish it. It is a labor involving industry, research and discrimination; and in its proper execution, demanding no ordinary degree of firmness and decision in resisting undue admissions within its pages. It may, perhaps, be deemed an act of presumption in the undersigned to assume this responsibility; but he can only answer that *some one* must undertake it, if it be undertaken at all; and having been a considerable breeder of Short Horns for many years, and more or less conversant with most of the principal herds of this country, he considers his observation and experience, together with a familiar acquaintance with the volumes of the English Herd Book, somewhat of a guaranty for the performance. Be it remembered however, that the task is not assumed without mature reflection, and after the repeated solicitations of several distinguished breeders in different sections of the United States; and if pursued, the co-operation of skilful and experienced individuals will be rendered. But for the integrity of its execution, the undersigned will be solely responsible.

As this work is not proposed in the anticipation of private gain, so neither will it be expected to involve pecuniary loss. It is therefore necessary to ascertain the extent of encouragement which will be given to it before proceeding; and for that purpose the undersigned respectfully asks the publication of this notice by the agricultural press generally in the United States and the Canadian Provinces, for which, together with a copy of the paper containing it, directed to him, he will present the proprietor with a copy of the work, if prosecuted.

He also requests all who approve the plan to write him, *post paid*, if by mail, previous to the first day of July next, stating the number of animals they propose to register, together with the number of copies they will take. If a sufficient number of responses are made to encourage the undertaking, the work will proceed; if not, it will be given up. The determination of going on with it, will be announced through the agricultural papers as early as September next, and those proposing to patronize the work will then be notified to forward their respective registers of cattle immediately, together with the necessary evidence of their correctness, that it may be issued as early as the spring of 1845.

As it is not expected that the sales of the book will more than pay for the printing and publication, a small charge for admission will be required, say from twenty-five to fifty cents for each animal, as the number may determine.

Well executed portraits of animals, the plates being furnished by the owners, will be inserted with the register.

The *full* pedigree of each animal will be given, running back through its whole extent in the English Herd Book, if thus furnished, together with its reference numbers, so as to render the American Herd Book a *perfect* record of every animal's genealogy.

An index containing the name and residence of every breeder whose cattle are registered, will be inserted.

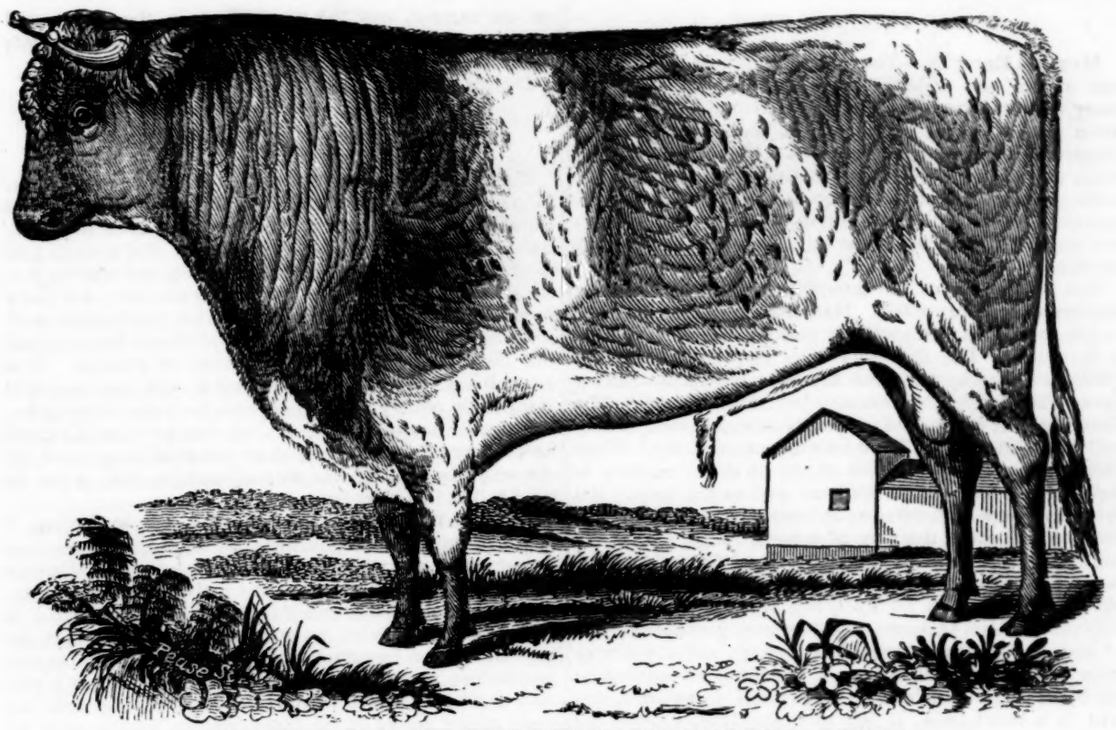
Another index will contain the name of every animal and the page on which it is recorded.

The work will be prefaced with a full and accurate history of the Short Horn breed of cattle, drawn up from the best English authorities, together with a particular account of their extraordinary productions both in the dairy and at the shambles.

It will be executed as near as possible, in the style of the English Herd Book, well bound, and delivered to subscribers at a price not exceeding three dollars a copy, either at New-York, Albany, or Buffalo, at their option

LEWIS F. ALLEN.

Black Rock, N. Y., April, 1844.



THE FULL BLOODED SHORT-HORN DURHAM BULL REMUS.

THIS noble animal of which the above (drawn from the original by Walton, and engraved by R. H. Pease,) is a fair likeness, but by no means flattered, is from the celebrated herd of Adam Fergusson, Esq. of Woodhill, Canada West; and is descended on the one side from the imported stock of Gen. Van Rensselaer, (the late Patroon) of Albany. He was exhibited at the State Fair in Rochester, in September last; but being then owned in Canada, was not entered for a premium. He was purchased by E. Mack, C. L. Grant and W. G. Goddard, of Ithaca, Tompkins county, with the sole view of contributing to the improvement of the stock in that section of the state, where he is still owned.

REMUS is a dappled roan. He is a large animal, weighing about 22 cwt.; clean limbed, well proportioned, and in all his points will compare favorably with any animal in the state. The following is his pedigree, as communicated by Mr. Fergusson:

"GENTLEMEN—I am happy to learn that the roan bull REMUS, has fallen into your hands, as I have every reason to think that he will give you satisfaction. Mr. Davis has a herd of splendid young stock from him, and the farmers around Mr. Davis have all been very much pleased with his service. I annex his pedigree:

REMUS, a roan bull (a twin) calved June 14th, 1839—sire Champion; dam Beauty. 1. *Champion* was got by Sir Walter, out of Dairy Spot. 2. *Sir Walter** was bred by James Chrisp, of Northumberland, England; sire by Bachelor, (1616,) dam Sprightly, by Barmton, (1677,) grand-dam by Waverly, (2819,) great grand-dam by a son of Washington, (674.)

2d. *Beauty** also bred by Mr. Chrisp, got by Snowball, (2647,) dam by Lawnsleeves, (365.)

3d. *Dairy Spot*, bred by Stephen Van Rensselaer, got by General Jackson, son of old Washington, dam Beauty, out of Red Lady, by Washington; grand dam Pansey, by Washington.

Washington and Pansey were both imported from England by the old Patroon.

I certify the above to be true and correct, to the best of my knowledge and belief. ADAM FERGUSSON.

Rochester, 22d Sept."

**Sir Walter* and *Beauty* were both imported from England by Mr. Fergusson. *Mayduke*, owned by L. F. Allen, Esq. of Buffalo, and to whom was awarded the first premium at the late Fair in Rochester, was got by Sir Walter and bred by Mr. Fergusson

FATTENING CATTLE ON POTATOES.

In answer to L. D. on fattening cattle with potatoes, I would say, that I have fed cattle on potatoes for over thirty years, and where they get plenty of potatoes, I seldom saw them drink water, even when it was close by them all the time. This season I fed two three year old ¾ Durham heifers on potatoes and pumpkins; a bushel of potatoes to the two in the morning, as many pumpkins as they would eat at noon, and a bushel of potatoes at night, with clover hay, what they wanted through the day and night. One of them suckled a calf until five months old—the white calf that took the second premium at Rochester—she was put dry in October; the other was put dry in October also. I fed them 68 days. The one weighed 802 lbs., the other 857 lbs. One had 80 lbs tallow; the other 103 lbs., exclusive of kidney—the one that did not suckle the calf having most. They very seldom tasted water, although they had the offer of it every day. They were not tied up, but run loose in a yard amongst 100 sheep. I never saw finer beef than they made.

JOHN JOHNSTON.

Near Geneva, 6th March, 1844.

BREEDING.

MESSRS. EDITORS—The following circumstance was related to me by Mr. Calvin Ward of West Richmond, N. Y. The names of the parties concerned I neglected to put down. In relation, he said that one of his acquaintances in the choice of two stud horses, one suited him every way except the color. The *color* of the one that struck his fancy was a *cream*.

In order to obtain a cream-colored colt from the bay horse out of his bay mare, he tried the following experiment: The cream horse was first used to tease the mare, which occupied some time. After putting blinders on the mare, the cream horse was taken out of the way, and the bay horse used to cover the mare, and not seen by her, but immediately returned to the stable, and the other led right in front of her, and was exposed to her view for some time. The result of the experiment was, in due process of time, the mare foaled a perfect cream colt, to the admiration and satisfaction of the owner, and his being the first one out of the many of the bay horse-getting of that color. S. W. J.

THE PUMPKIN CROP.

MESSRS. EDITORS.—The pumpkin may be justly called one of the best articles the farmer raises. There are many different varieties of this vegetable, but we think there is none equal to the old-fashioned, yellow, field pumpkin, for yield and goodness. For producing rich milk, it is one of the very best articles that can be given cows. Fed raw to hogs, they are useful by increasing the appetite. They will fatten young fall beef, and give fatting oxen a better start in the fall than either potatoes or turneps.

The cultivation of the pumpkin is thought by many farmers a secondary affair. Hence the idea that they can be grown only in extraordinary seasons, when everything is favorable. But that this crop can be successfully grown with corn, we have abundant evidence—having never raised them separately but one season. The pumpkin will grow, and generally succeed well in any soil that will produce the corn crop successfully. They like a rich, warm soil, with plenty of stable manure to feed on, and will stand drouth as well as any crop. But there are some difficulties to be overcome in getting the crop up and out of the way of insects, (bugs, &c.) We have generally planted them at the time of planting corn; but there is an objection to this early planting, and that is, they may be cut off by a late frost. This was the case the two last seasons—frosts occurring about the first of June. After the young plants are up, and the danger from frosts is past, then comes the "tug of war" with the bugs. The little striped bugs come in swarms, and will in a short time, if left to themselves, destroy the crop. But in this case, "prevention is better than cure," and to prevent their attacks we sprinkle the plants, as soon as up, with plaster, and find the "varmints" do not like to meddle with anything that is whited with this substance. In case the plaster is washed off by rain, we sprinkle again, and continue to do so as often as is necessary till the plants are out of the way of these "pestiferous critters." Our crop the past season was planted with corn, and had just got finely up, when, on the night of the first of June, they, with the corn, were cut down by frost. The corn started again, but the pumpkins were a "dead set" at that business. We had a few seeds left, and a few days after the frost we stuck them down between the hills of corn. They came up well, and we took care to keep them covered with plaster, so that the bugs did not trouble them much. The space covered by the vines could not have been much over an acre, yet we gathered from it six large cart-bodies heaping full. To escape late frosts, we think the farmer would do well to delay planting till about the first of June, in this climate. The spaces at which they should be planted is important, as the vines extend a good distance. If planted with corn, we think every alternate hill in every third row will be thick enough—the vines will then cover the ground. Care should be taken not to obstruct the vines after they begin to run. If weeds spring up, pull them out by hand, or cut them out with a hoe. We have been in the habit of raising pretty large crops of pumpkins. Seven or eight years ago, the *seed* which we saved from one crop measured *ten bushels*—which we sold to Mr. Leman Stone, the seedsman, at a dollar and a half a bushel. The seed saved from the last crop was two bushels, which sold readily at two dollars a bushel.

Now if any of your readears can tell a tougher pumpkin story than this, which, by the way, is no less *true* than *tough*, I shall be glad to hear it. L. D——D.

Derby, Conn. Jan. 22, 1844.

THE CUT-WORM.

MESSRS. EDITORS—I see in the October No. of the Cultivator a writer says, that a "burdock leaf wound around the stem of a cabbage will prevent the *cut-worm* from destroying the plant." But the writer seems to think every farmer is not fortunate enough to have that plant on his ground. Where *burdock* cannot be obtained, perpaps a hickory leaf can, and that I think will answer every perpose. I have seen a hickory leaf repeatedly used, and never knew it fail to preserve the plant. If the leaf is put on narrow, and the plant set low, the worm will sometimes crawl up and cut off the plant above the leaf; but it is not common. JACOB HITCHCOCK.

Dwight Mission, March 20, 1844.

TO DESTROY NUT GRASS, &c.

MESSRS. EDITORS—I see that a subscriber asks for information how to kill nut grass. If he means by it, that which has proved so great a curse on the coast of Louisiana, I would suggest as an experiment that a small plot of ground, say a square perch, be taken, and sow on it at the rate of 40 or 50 bushels of salt to the acre, and mark its effect, if it has that desired. I think that thousands of acres on both sides of the Mississippi would be reclaimed and be made even more fertile than at present. This much I can venture to assert: that it will not only kill that or any other grass that appears for some distance below the surface of the ground, but whether it will extend its salutary effects to the bulb or not must be proved by the experiment. It has this advantage: that it can be tried at but little expense.

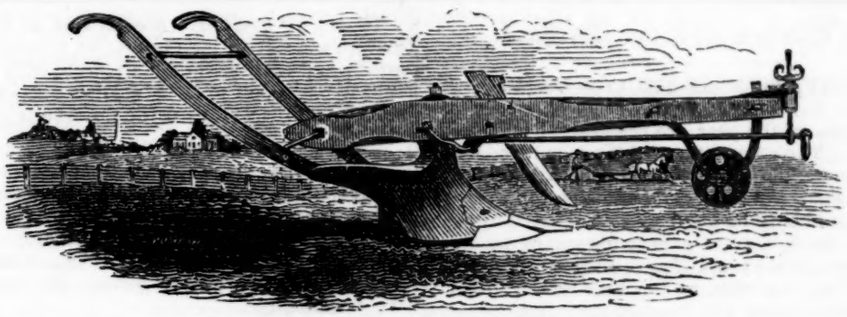
ACCLIMATING CATTLE.—Whilst I am scribbling, I might suggest to a Southerner who requests information in last year's vol. about acclimating the improved breeds of cattle, that my opinion of the great difficulty that occurs, does not arise so much from the change of food or climate as the state of irritation and fever that they are kept in by the incessant attacks of the horse flies and mosquitoes, so that they can get no rest by day or night. Now I think that may be obviated by sponging them in a steep of the leaves of the black-walnut, tomato vine, or many other strong and pungent leaves, or a solution of soot might answer, as any man in the south knows how repugnant the smell of soot is to the insect tribe, particularly to the mosquito. MAGO.

Elementary Instruction in Chemical Analysis, by Dr. C. R. FRESENIUS, *chemical assistant in the Laboratory of the University of Giessen, with a preface by Professor* LIEBIG, *&c., published in New York by D. Appleton & Co.,* 8 *vo. pp.* 284.

This work comes before the public with the sanction of Professor Liebig, whose scientific labors in behalf of Agriculture are spreading far and wide, and doing much good. Since his attention has been turned in that direction, we find that other chemists, in Europe and in this country, are devoting themselves to the improvement of agriculture by means of the science of Chemistry. We wish them success, and hope they will continue their labors, until they awaken the whole agricultural community to the importance and dignity of the art they practice, and the necessity of improving it by the union of practical skill and scientific knowledge.

The work before us, however, is not strictly agricultural, though it has an indirect bearing on the subject. If, for instance, we want to analyze the soil of a field, an earthy substance found on a farm, or a metallic substance from beneath the surface, it directs the practical chemist how to proceed; how to prepare, and how to apply his tests. To the student of chemistry it is a treasure, and one of the best works of the kind that has of late issued from the press.

A neighboring farmer was lately expressing a wish that we had some chemist in this part of the State who would undertake the analysis of soils. I referred to Dr. Torrey, Dr. Chilton, and Issachar Cozzens, of New York, who were fully competent to the undertaking. But at present, the applications would be so few as to afford an insufficient compensation. If, however, the wish of my neighbor was more general, and the applications of farmers for the analysis of soils were sufficiently numerous, the expense could be reduced, and make it an object for a chemist to apply himself to the subject. The American Institute, in the city of New York, might designate a chemist for the purpose. Or if an agricultural school should be established, a professor of chemistry should be appointed, embracing mineralogy, geology, &c., in his course. To the student or the professor, the work of Dr. Fresenius would be highly valuable in the analysis of soils or other substances. A PRACTICAL FARMER



THE BOSTON CENTRE-DRAUGHT PLOW.

Prouty & Mears' Self-Sharpening Patent, with new Gearing.

The advantages secured by the new gearing attached to this plow, are many and great. By drawing from back of the standard, the beam is secured from breaking; the plow is kept more firmly into her work, and a remarkable degree of steadiness is communicated, greatly increasing the power of the beam; while the facility of taking more or less land, and raising or lowering the point of draught to the greatest exactitude and without altering the back bands of the beam, by means of the elegant arrangement at the head of the beam, is truly surprising. The wheel, larger, and running on the outside of the beam, enables the plowman to carry over the last or clearing furrow with the greatest ease and precision, the wheel then passing up the open furrow on the left, quite independent of the single furrow-slice, from which the wheel, when placed under the beam, is continually running off.

The Boston Centre-Draught Plow, with the new gearing, may now be considered the "Ne plus ultra;" for as it is conceded on all hands, that *spade labor is the perfection of good husbandry*, the plow which comes nearest to that criterion must be the best for all purposes. The above engraving is the portrait of a plow that has been found capable of breaking up two acres and a half of sod ground in a day, with a team of three mules abreast; to turn it from a two horse plow to a three horse a breast plow, or *vice versa*, requiring the labor of a few minutes only. [See advertisement.] J. P.

Delaware, April, 1844.

SALTING AND CURING HAY.

MESSRS. EDITORS—In the January number of the Cultivator, I find some remarks of yours on salting hay for stock, which are something different from my views of the subject. I suppose the difficulty with Mr. Cartwright was, that he depended too much on the salt, and that his hay was so much heated by being housed too damp, that it proved injurious to his horses; and that salt had little or no agency in its injurious effects.

Your statement, that salt may be properly used to prevent damp hay from being damaged, does not agree with my experience on the subject; for as far as I have observed, the salt increases the dampness, and should be sparingly used on wet hay as well as dry. Most farmers in the hurry of the hay making season, are apt to house too much of their hay in a green, damp state, and use salt so profusely as to injure it, and the stock that consumes it. Stock need but little salt in winter, and more than to make their food palatable, must have a contrary effect, and be eaten from necessity rather than choice.

My practice is to cure my hay properly and put two quarts of fine salt to a ton, taking care to have the lumps well pulverized. Curing hay in the cock, is the only right way, though most farmers are slow to believe it, and many have condemned the practice, because they have not patience to wait long enough. I know of no other way to cure clover without serious loss.

The above was written before I read a communication from R. L. Pell of Ulster county in your March number, and had not his theories in other respects reminded me of the observations you made on readers of agricultural papers in the February number, I might not have troubled you with this communication, but have adopted his plans in future. As it is, I think I shall let farmer A. try them first. Ten dollars worth of grass seed to an acre, would look large to farmers that do not usually sow over two; and using "straw, chaff, and refuse hay, to make compost, because it contains substances required in the animal economy to form muscle, blood, horns, hoofs, &c." would hardly answer for stock farmers. If Mr. Pell has made any considerable quantity of hay in that way, and fed that exclusively any considerable time to his stock, and not lost them, I think they must be of a different temperature from my neighbor's cow, that was killed by eating salted cucumbers, or my pigs that shared the same fate by drinking a pail full of swill with one pint of salt in it. Yours, &c. DANIEL S. CURTIS.

Canaan, N. Y., March 6, 1844.

TRANSFERRING BEES.

MESSRS. EDITORS—It is with pleasure that I comply with your request, in giving a description of an easy mode of transferring bees. I do it any time of the day, although it is best when most bees are abroad. If there are any bees on the outside of the hive, sweep them off with a wing or feather. "Then take it from the stand and reverse it upon the ground; spread a sheet upon it with a string or hook fastened to it in the centre over the centre of the hive." Then place the empty hive where the old one stood, to receive the returning bees. "Then lay a double blanket or carpet, or some thick cloth so as to make it dark within; the corners are then to be thrown on the top out of the way of the hammer, which is now to be applied," (lightly but rapid,) "first upon one side and then upon another; they roar loud when the hammering commences, but in less than a minute their noise will abate, when the cloths should be raised by the string two or three inches, which they will immediately answer by their roaring in consequence of having more room; the hammering to be continued; the cloth to be raised slowly; and when it is raised six or eight inches in the centre, it can with perfect safety be raised from one corner of the hive, so as to see the motion and speed of the bees in leaving the combs and running up into the cloth. The raising of the cloth must be slow and gentle, governed as much as possible to the accommodation of the bees; in ten minutes time the cloth in the centre should be about two feet from the hive, by which time probably the bees will all be in the cloth; the hammering, however, is to be continued until they have all, or nearly all, left the hive, when the top cloth is to be carefully taken off, the sheet raised from the hive by the string or hook and spread open, the bees uppermost;" directly in front of the empty hive, the bees will soon take possession of it; guide the queen, if she can be be found, and disturb the bees gently with a feather. If there be any bees left in the old hive they will soon leave the combs by blowing in; sweep them off and put the hive where the bees cannot find it. The bees will work with renewed activity as if they had not been disturbed.

J. WELLS.

Ulster Co., N. Y., April 9th, 1844.

In cultivating the earth, the condition of man's success is his industry upon it.

In raising domestic animals, the condition of his success is kindness and benevolence to them.

The Garden and the Orchard.

CULTIVATION OF FRUIT.—No. V.

THE PEAR.

The varieties of the pear are propagated by budding and grafting. The compactness of the wood renders the latter very successful. The stocks are raised either from seeds or suckers. But suckers do not always form good roots, and should only be employed when seedlings cannot be had. Seedlings are greatly improved by transplanting at one or two years of age; cutting off the lower extremity of the tap root, at the time causes them to throw out lateral ones, and renders their final removal from the nursery more easy and safe.

As a general rule, pears should be grafted or budded on pear stocks. On the apple, thorn and quince, their fruitfulness is much increased, but the duration of the life of the tree is greatly diminished. The same cause which produces an accumulation of the elaborated juices in the branches, and consequently an increase of flower buds, and of fruit, also prevents the proper diffusion of the sap and secretions, and shortens the life of the tree. There are however several advantages of employing such stocks in certain cases.

One of the most important of these is the production of dwarfs. These are chiefly desirable in small gardens and on very limited grounds. The quince stock is commonly used for this purpose. But as the quince is very liable to be destroyed by the borer, an improvement to remedy this evil has been introduced lately into practice. The quince is first grafted on a pear stock, and the year after the pear is grafted on the quince shoot thus produced, about an inch above the previous insertion. The wood of the quince is thus made to form a portion of the trunk, by which the circulation is obstructed, and increased productiveness and diminished growth produced. A method, adopted by French gardeners, of training these dwarfs so as still further to increase their fruitfulness and diminish the space they occupy, as well as to add strikingly to the neatness of their appearance, is what is termed *quenouille* training. A single stem is suffered to run to a height of about seven feet, leaving branches at regular distances from bottom to top, about eighteen inches long. These are brought into a pendent position by bending them downwards as they grow, and confining them to this position by shreds of bass until they become fixed. The tree will throw out many more shoots than are necessary; these must be pruned off, leaving only the most vigorous. The circulation is impeded and their luxuriance checked, and consequently the production of fruit increased. Trees thus trained, need not occupy a tenth part of the space allotted to common standards.

Some varieties, too, are much improved in quality by grafting on the quince. This is the case with the Duchesse d'Angouleme and some others of great excellence, which are said to be of only second-rate quality when on pear stocks.

Pear trees, on account of their upright, pyramidal growth, require much less space than apples. Twenty feet distance is sufficient in all cases.

The following are some of the best varieties of the pear, which have either originated in this country, or have been proved here and found adapted to the climate.

SUMMER FRUIT.

Amire Joannet. Fruit quite small, good but not first rate; a great bearer, ripening often two weeks before wheat harvest. Chiefly valuable for its early maturity. The *Primitive* or *Little musk*, is smaller, inferior in flavor, and about a week later, but in other respects resembles the Amire Joannet.

Madeleine. A week or two later than the preceding; of good size, and delicious melting flesh and fine flavor. A sub-variety, slightly inferior in quality, has less of the peculiar greenish color of the skin, and is destitute of the pleasant and just perceptible degree of acid which mark the true variety.

Skinless. Ripens the early part of 8th month, (Aug.) fruit medial size, sweet, juicy and good, hardly first rate, but its good qualities remain unchanged through all seasons, and it is a great and constant bearer.

Dearborn's Seedling. Medial size, of fine and delicate texture and flavor, melting and very good. It ripens the middle and latter part of 8th month, with the *Julienne*, a variety not equal to it in quality, but excelling in the abundance of its crops while the tree is yet very young.

AUTUMN FRUIT.

Washington. Ripens soon after Dearborn's Seedling, of medial size, of sweet and delicious flavor. Decidedly a first rate fruit.

Summer Bon Chretien (or *September.*) Fruit large and beautiful, very sweet, juicy and rich. Considered by many as equal to the best of pears. It ripens nearly with the Washington.

Seckel. Well known as a fruit of unequalled richness of flavor, and though small, and the tree of slow growth, it should be in every collection.

Urbaniste. Large, excellent, ripening late in autumn, too sour for some palates, but of decided excellence.

Virgalieu. Known as the *St. Michael* of New-England, the *Butter pear* of Pennsylvania, and by more than twenty other names. It is erroneously called the Virgoulouse by some writers, but the latter name belongs to quite a distinct fruit. In most parts of New-York it is well known as a fruit of great excellence.

WINTER FRUIT.

Little attention has been given in this country to the cultivation of winter pears, and their quality and adaptation not thoroughly ascertained. The *Passe Colmar, Easter Beurre*, and some others, however, have been found very fine. But much care is required in ripening, otherwise they prove worthless. They are to be kept in a cool place till near the time of maturity, and then brought into a warm room, with a temperature as high as 70 deg. Fah. when they soon acquire a fine flavor. Late autumn and winter pears of first quality have been rejected by some cultivators as unfit for eating, from the simple fact that they were allowed to ripen in the cold.

The effects of temperature and other external influences, on many varieties of the pear, render their quality exceedingly variable with the seasons. The *Frederick de Wurtemburg* has fruited for a few years past in Western New-York, and was generally considered fully equal if not superior to any foreign variety; but the past season proving unusually wet and cold, the fruit, though fine in appearance, was found to be tasteless and worthless. But when taken from the tree and ripened in a warm room, the quality proved excellent. This expedient, however, will not always answer, as in case of the *Bezi de la Motte* and some others, which are sometimes delicious, but usually of no value whatever. Several instances were given by the late Robert Manning in Hovey's Magazine, of pears which one year were melting and high flavored, and the next so insipid as to be at once rejected as perfectly worthless.

Those varieties which continue unchanged in their excellence, through all weathers und seasons, as the *Madeleine, Skinless, Summer Bon Chretien, Seckel, Virgalieu*, and others, possess not only eminent advantages, but give more promise of general adaptation to the varying circumstances of the different localities of the country.

The pear tree is of longer life than most other fruit trees. In the Genesee Farmer, vol. 3, p. 38, is a notice of a tree probably 200 years old. The celebrated tree probably still standing at the corner of Third Avenue and Thirteenth street, New-York, in a bearing state, was planted by Governor Stuyvesant more than 200 years ago. The only formidable *disease* to which the pear is subject, is the *Fire Blight*. This generally makes its appearance during the early part of summer. The branches affected by it suddenly turn black and die. If the disease is not checked, it frequently, but not always, extends and destroys the whole tree. It has been ascribed to different causes. Observations prove that, at least in some instances, it is prodnced by a small insect, (*Scolytus pyri* of Peck,) which eats a small circular ring round the branch beneath the outer bark, and thus destroys it. The insect, where discovered, has been some inches below the affected part. But sometimes no insect can be found. The writer has carefully stripped diseased branches, and even whole trees of their bark, and on the closest examination has detected nothing. This absence of external injury

has led to another opinion, that fire blight is caused by a too rapid growth producing a superabundant flow of sap in the branches, and consequent surfeit. In proof of this, the fact is adduced that the most rapid growing trees are most subject to this kind of blight. But as such a cause would be an anomaly in vegetable physiology, it is far more probable that it is produced by injury from the cold of winter, which would of course chiefly affect the largest and most succulent growth.* But whatever may be the cause, nearly all agree in the remedy. Professor Peck, who first described the insect, which he considered as the *only* cause, directed that the affected branches be immediately cut off at some distance below, and burnt, to destroy the insect. John Lowell states, that by steadily pursuing the system of cutting off the limbs many inches below the apparent injury, and burning them, the *insects have been extirpated from his estate.* This remedy has succeeded perfectly in other instances. It has succeeded also where the disease was evidently not caused by an insect. But it must be immediately applied. All half-way efforts will be useless. J. J. T.

CULTURE OF THE STRAWBERRY.

The production of this delicious and healthy fruit is so easy, and where grown for sale, so profitable, that it is surprising it is not found in every farmer's garden, where a small space devoted to it would ensure a supply of fruit for a long time. Any soil suitable for other vegetables, will produce strawberries, but the best soil is a deep friable loam. The best time for transplanting is in the autumn after the vines have ceased bearing, but they will succeed if planted early in the spring. Dr. Bayne, in that excellent Journal, "Hovey's Magazine of Horticulture," gives the following directions for the culture of this fruit, which can scarcely fail of success; though we may add, that if the soil is suitable, and the plants are kept clear of weeds, and the runners stopped, there will usually be little doubt about the bearing, whatever may be the mode or distance of planting."

"For the reception of the plants select a loamy or sandy soil; spade in a thick layer of strong unfermented manure, and thoroughly pulverize the earth; mark off the ground in rows three feet asunder, then select the strongest plants, and set them 12 inches from plant to plant in the rows. Permit the runners to take possession of every alternate space; observing to eradicate weeds and grass throughout the season. The runners from the other space must be carefully destroyed throughout this time. By this arrangement of the plants, you will have your patch in beds three feet wide, leaving a vacant space or alley three feet wide for the gatherers to walk in. After the fruit season is over, the alleys or spaces unoccupied by the plants, may now be thoroughly worked for the reception of bearing plants for the next year. The plants of the previous year must be spaded under, taking care to leave sufficient plants in the original rows, for the production of bearing vines for the next crop. By this simple mode of reversing the beds, a patch upon the same ground may be continued productive for many years."

In speaking of the finest and most productive varieties, Dr. Bayne adds:—"I would recommend Hovey's Seedling, Female Hudson Bay, Large Lima, Bishop's Orange, Bayne's Prolific, as being splendid varieties, and abundantly prolific. I believe every flower on the above varieties are female, and if planted separately, will fail to yield abundantly; but if planted in proximity with the Melon, or Southborough Seedling, every flower will be impregnated, and will produce enormous crops."

On the sexual difference of the flowers of the strawberry, first brought into notice by Mr. Longworth of Ohio, and received with much favor, as accounting for the fertile and sterile beds of this plant; the conductor of the Magazine dissents from the believers in such sexual difference, and in some comments on the paper of Dr. Bayne, states his opinions at large. We leave room for only the following extracts; and the remark, that in planting strawberry beds, the intermixture of what are called male and female flowers, can do no no hurt, and will ensure fertility.

"That there may be *fertile* and *sterile* beds is not denied; but the cause of their sterile character is to be sought, not in a naturally defective organization of the blossom, but rather in the mode of cultivation applied to the plants. It is well known that all flowers have a tendency to become double, and when this takes place, it is also known that the stamens are transformed into petals. Now somewhat such a change undoubtedly takes place in the strawberry, when under a high state of cultivation, or forced by too much nourishment to extend its runners too far. Repletion is fatal to the perfection of the blossom, though it may produce apparently a vigorous growth. * * * * Such has been the management of many beds of our seedling. We know of repeated instances where the beds of *last year,* owing to their entire unproductiveness, were given up as unworthy of any care, which the past season, produced immense crops, though overrun with weeds, and this, too, without being in the vicinity of any other kind. Many such experiments have proved conclusively, that cultivation alone creates fertile or sterile plants."

We think Mr. Hovey has stated the case rather too strongly. Cultivation no doubt does much, but we cannot think does every thing. We have had in a small meadow devoted to fruit, and which until last year has not been plowed for a long time, two patches of the common field strawberry, both of which blossomed freely every year, but while one of them always bore freely, the other never produced a solitary berry. In this case there was no mixture of the flowers, and all were sterile; while the patch of mixed blossoms was productive. The cultivation with both patches was precisely the same; and therefore this result must be attributed to some other cause.

RYE INJURIOUS TO ORCHARDS.

MESSRS. EDITORS—In 1839, I plowed in a twenty acre field of rye for manure, when it was about developing the tassel, with good success. I would not have it understood that the grain was sowed for that purpose, as there are many substances less expensive, that might be used to greater advantage, but to save a young orchard, growing in the same lot, from *destruction.* During my absence, my man through mistake, sowed rye instead of wheat; and on my return, I was obliged to turn it under, having once injured an orchard so materially by cropping it one year with rye, that it did not bear fruit in 5 years after, and still feels the effect of the injury.

Pelham, Ulster Co., Feb. 19, 1844. R. L. PELL.

APPLES.

MESSRS. EDITORS—The object of this communication is to suggest some reasons why this species of fruit should receive increased attention from our farming population. More care needs to be bestowed upon the raising of the *choice kinds* of apples. The demand for these is generally far beyond the supply. They are needed both for consumption at home, and shipment abroad. Choice apples, hand picked and properly barreled, meet a ready sale, and at fair prices, whether needed for domestic use or for exportation to Europe. The greatest facilities for such exportations are now afforded by steam ships, packets, and other carriers of freight, and it is well known that in European countries, particularly England, American apples are more thought of, and command higher prices than those of transatlantic growth, and prices which do not fail to yield to the shipper, due returns of profit. Hence it is easy to see that the choice article need only to be transported in good order and condition to our commercial emporiums, to attract immediate attention and command a ready sale. And indeed, it need only be known, that farmers have on hand these choice kinds of apples, fit either for family use or for shipment to foreign ports, and applicants will soon make their appearance, and the full value be obtained for the article But while good apples are thus readily disposed of at fair prices, and are therefore claiming increased attention

* The opinion that it is caused by the fruit rotting on the branches is sufficiently disproved by the fact that trees which have never borne are liable to it. For an instance of this, see Genesee Farmer, vol. 3, p. 273.

from every farmer who has a proper regard for his own interests and the wants of the public, common ones also are quite sure to meet with a ready sale and at fair prices. Larger quantities of these should be raised, for larger quantities are needed. In this section of the State, it is not difficult to make contracts for the article, sometimes to be delivered when called for and even to be taken from the trees. Here then is inducement for the care of the farmer, and besides these apples are found as profitable as potatoes for feeding out to stock; and orchards properly planted and well trimmed, will yield good crops of potatoes and other products. I append to this article, "Six reasons for planting an orchard," presenting the subject in a different light, and commending it even to the moral feelings as well the judgment and common sense of every farmer. A. OF THE NORTH.

SIX REASONS FOR PLANTING AN ORCHARD.

"1. Would you leave an inheritance to your children? plant an orchard. No other investment of money and labor will in the long run, pay so well.

2. Would you make home pleasant—the abode of the social virtues—plant an orchard. Nothing better promotes among neighbors a feeling of kindness and good will, than a treat of good fruit often repeated.

3. Would you remove from your children, the strongest temptation to steal—plant an orchard. If children cannot obtain fruit at home, they are very apt to steal it; and when they have learned to steal fruit, they are in a fair way to learn to steal horses.

4. Would you cultivate a constant feeling of thankfulness towards the great giver of all good—plant an orchard. By having constantly before you one of the greatest blessings given to man, you must be hardened indeed if you are not influenced by a spirit of humility and thankfulness.

5. Would you have your children love their home—respect their parents while living, and venerate their memory when dead—in all their wanderings look back upon the home of their youth as a sacred spot—an oasis in the great wilderness of the world—then plant an orchard.

6. In short, if you wish to avail yourselves of the blessings of a bountiful Providence, which are within your reach, you must plant an orchard. And when you do it, see that you plant good fruit. Don't plant crab apple trees, nor wild plums, nor Indian peaches. The best are the cheapest."

ON GRAFTING.

MESSRS. EDITORS—As the season for grafting approaches, it may be useful to communicate to your numerous readers a very simple suggestion for ensuring the life and vigorous growth of the scion, and consequently the rapid renovation of trees and orchards. The rule is this. Always cut off the stock to be engrafted not more than one inch above a strong lateral shoot.

This shoot should be left growing until the following spring, when the grafts will have acquired strength enough to dispense with its aid. The observation of several years has shown the success of this simple method, and a little reflection will show its conformity with the physiology of trees, and the mode of their growth.

The sap, as is well known, rises in an imperfect state through the solid wood of the tree. In this state it contributes nothing to its growth. But when it has been *elaborated* in the leaves, it descends between the bark and the wood to form the new growth. The yearly increase is shown by the annual circle of new wood thus formed. Hence the importance of having a vigorous *leafy* branch rising from the head of the stock which will *send down* from its leaves a full supply of the thick elaborated sap, to *nourish* the *young scions* and to heal and cover the wound upon the stock.

This principle is prettily illustrated in the ordinary pruning of trees. Where a stump is left the sap scantily exudes around the bark, and the efforts of nature barely suffice to heal the edges of the wound leaving the woody part bare. But if the limb is cut off close down to the bark from which it springs, the wound being then, as I may say, within the full current of the descending elaborated sap, is soon wholly covered and disappears.

These facts respecting the nature of the circulation in trees and plants will also explain why the grape cannot be engrafted with success until the leaves are partially expanded. The first flow of the watery sap which rises through the wood is excessive, and prevents the union of the graft with the vine. But when the opening leaves expose a surface for the evaporation of the superfluous water, the sap is elaborated and fitted to form a union between the old and new wood.

The above suggestion may from its simplicity appear unworthy of illustration so particular. But the process of bleeding is also very simple, yet it is connected with all that is wonderful in the laws of the circulation of the blood. The value of an operation is rather enhanced by its simplicity; and it is always a pleasing as well as a useful exercise of the mind to trace the connection between the beautiful truths of natural science, and many of the most easy and ordinary practical operations. The theory of one operation, well understood, will render many others intelligible and interesting. This rule may have been observed in an imperfect and accidental way, but I have no where seen it clearly stated, and the observation of engrafted orchards will show that it is not definitely understood. On the contrary, grafters generally select a clear place to cut off the stock, either for convenience in working, or from the mistaken idea that the scions are nourished only by the rising sap, and that laterals would weaken their growth; while the actual result is, that they are prevented from dying under these circumstances, *only* by an effort of nature to heal the wound upon the stock, and an active growth takes place much more slowly than when the side branch is left. E.

FLOWERS.

We hope our fair friends will not, at this season, overlook the delightful employment of cultivating flowers. Every one may have a few, and the taste once acquired, it will not readily be relinquished. A woman destitute of a love for flowers, seems to us a mistake of nature. The delicate, the fragile, and the beautiful, should have sympathies with all in nature that possesses the same qualities. The time spent on their cultivation is in no sense of the word wasted. They contribute to our pleasures; they add to our knowledge of nature; they unfold to us the mysteries of the beautiful, and tend to humanize and elevate the mind. To us a woman never appears more truly in her sphere, than when she divides her time between her domestic avocations, and the culture of flowers. If our fair friends wish to have the flush of health on their cheeks, and the rich rose-leaf tint on their lips, let them spend an hour or two each day in the open air, inhaling the fragrance, while employed in training and cultivating their flowers.

OLD PEACH STONES.

A writer in the Massachusetts Plowman relates a remarkable case of the retention of the vegetative principle in peach stones. Some forty or fifty years ago, there stood beside an old well, two or three peach trees. Two years since, the well, which had much fallen down and was covered with briars, was removed: when to the astonishment of the owner, ten or twelve peach trees came up where the well had stood. He thinks the stones (or seeds,) from which these trees came, were produced at least thirty years ago.

SALT FOR ASPARAGUS.

Our correspondent "Jonathan," says—"The application of salt on Asparagus, must be made with caution, as he once much injured a fine bed by the experiment."

BEST WAY TO KILL CATERPILLARS ON FRUIT TREES.—With a swab fastened on the end of a pole, and dipped into *strong lie*, swab out the nest. The lie will kill all that it wets. C. R.

EXTRAORDINARY SHEEP.—A shearling (yearling) Leicester weather has lately been killed in England which weighed 46 lbs. per quarter, and two others of the same breed and age that weighed 42 lbs. per quarter each.

Domestic Economy.

CHEESE MAKING.

A subscriber who makes a large quantity of cheese, has requested to be informed how some of the celebrated English cheese is made. After having looked over all the principal papers on the subject within our reach, we have concluded we cannot give the information sought, in a better form, than by presenting an extract from the "Report of a Gloucestershire Vale Farm," published by the "British Society for the Diffusion of Useful Knowledge," in the third volume of "Husbandry." The occupant of the farm is Mr. Drinkwater S. Hayward, whose management generally, we should think from the Report, is of the best character.

Management of the Dairy.—It is acknowledged by every one at all acquainted with the subject, that the quality of cheese does not depend upon the superior richness of the soil or the fineness of the herbage; for cheese of the first quality is often made from land of inferior description, and from herbage of a coarse nature. Nor does the quality of the cheese depend on the breed of the cows, for cheese of the best quality is made from the milk of cows of all the different breeds in the country; we think it principally depends on the management of the cows as to their food, &c. of the milk in converting it into cheese, and of the cheese, till it is fit for market.

The following circumstances are injurious to the quality of cheese; allowing the cows to get rank or ill-flavored grass or hay, these conveying a bad flavor to the milk and cheese; allowing the cows to run and heat themselves; driving them far to be milked, which makes the milk froth much in milking; carrying the milk from the place of milking to the dairy; and allowing the milk to remain long after it is milked, before it is set with the rennet.

The greatest dependence is upon the dairy maid; and the chief art of making cheese of the finest quality, lies in her management. The superintendence of the dairy invariably devolves upon the farmer's wife. Mrs. Hayward attends to every minute circumstance in this department, and the following is a report of the information she has obligingly furnished respecting the whole economy of the dairy of this farm.

The management of a dairy should be conducted with the greatest regularity. Every operation should be performed precisely at the proper time. Either hastening or delaying the execution of it, will cause cheese of an inferior quality to be made of milk from which the best may be obtained. A dairy maid is selected for skill, cleanliness, and strict attention to her business. Her work commences at four o'clock in the morning, and continues without intermission till bed time.

The dairy house should be kept at a temperature of between 50 and 60 deg.; and the dryer it is, the better, as both the milk and cream retain their sweetness much longer in a dry than in a damp air. Every time therefore, the dairy is washed, it is dried as quickly as possible.

The milkings should be as near as possible at equal divisions of the day, commencing at about four o'clock in the morning and three in the afternoon. The milking should be finished in an hour. The dairy maid sees that the milkers do their duty, and that all the cows are milked clean; for the milk that comes last is richest; and, besides, if the cows are not clean milked, there will be a gradual diminution of the milk, perceptible daily; for these reasons, the greatest care is taken that the cows are clean milked.

The cheese tub being put in its place in the dairy, the ladder is put across it, and a large thin canvass cloth covers the whole tub and ladder, to catch any of the milk that may drop from the pail, and to prevent dirt from falling into the tub. Above this, and upon the ladder, is placed a hair cloth sieve, through which the milk is strained. If the milk should not be of the temperature of 85 deg., a portion of it is put into a deep tin kept for the purpose, and placed in a furnace of hot water in the wash house, by which means the whole is warmed to the proper degree. It is of the utmost moment to attend to this, for if the milk is not warm enough when the rennet is put into it, the cheese will be 'tender,' and will bulge out in the edge, which spoils its appearanoe, and a great quantity of sediment of small curd will be found in the whey, which is so much of the curd lost. If, on the other hand, the milk is too warm, it will cause the cheese to 'heave' or ferment, which injures both its appearance and quality. When the milk is sufficiently warm, the coloring matter, (if any is used) and the rennet are put into it, after which, the tub is covered with a woolen cloth for at least an hour. Rennet or runnet is made from the stomachs of calves, here called 'vells.' Mrs. Hayward never uses them till they are twelve months old; for if they are not old, the rennet made from them causes the cheese to 'heave' and become full of 'eyes' or holes. She prepares the rennet from them by adding to every six vells, two gallons of brine and two lemons. The lemons do away with any disagreeable smell, and give the rennet sweetness and agreeable flavor. Twenty or thirty gallons of it are made at a time, as it is found to be much better when made in large quantities. It should never be used till it has stood for at least two months.

When the curd is sufficiently firm for breaking, it is gently and slowly cut with a three bladed knife down to the bottom of the tub, (the knife being about fourteen inches long,) both ways, or at right angles and around the sides of the tub. The cuts should be about an inch apart. When it has stood five or ten minutes, to allow it to sink a little, and the whey to come out as clear as possible, some of the whey is dipped out of it with a bowl, and the curd is cut a second time with the three bladed knife, very slowly to begin with; for if the cutting is done hurriedly, a great quantity of sediment of very small curd will pass through the seive and be found in the whey, and there will also be an increase in the quantity of whey butter, which should have been in the cheese, and the value of the butter thus obtained will not compensate for the loss of credit the cheese will sustain from the abstraction of the butter from it. The cutting being therefore performed very slowly at first, and with the strokes of the knife at considerable distance from each other, is gradually quickened, and the strokes are taken nearer and nearer every time. At last, one hand, with the skimming dish, keeps the whole in motion, turning up the lumps suspended in the whey, while the other, with the knife, is in constant motion, cutting them as small as possible; and this operation is continued till no more lumps are brought to the surface, and the whole mass is reduced to one degree of fineness. This process may occupy a quarter of an hour.

The curd is now allowed to stand a quarter of an hour, and being thus sufficiently settled, the whey is taken from it with the bowl, and poured through a very fine hair sieve, placed over the whey leads. When the greatest part of the whey has been separated from it, the dairy maid, folding over a portion of it, and beginning at one corner, goes around the tub, cutting the curd into lumps, and laying them on the principal mass, by which operation the mass is carried all round the tub, and most of the remaining whey escapes between the cut fragments as they lie and press upon each other. From time to time the whey is taken from the tub, and put through the seive into the whey leads.

The curd is then put into vats (hoops) and pressed down with the hands; the vats being covered with cheese cloths about one yard and a quarter long, of fine canvass, are placed in the press for half an hour, when they are taken out and the curd cut into thin slices, and put into a mill fixed on the top of the tub, which tears it into very small crumbs, as small as vetches. This mill, which is of Mr. Hayward's construction, is a great improvement in the making of cheese, not only as it saves the dairy maid the most laborious part of the process, that of squeezing and rubbing the curd into small crumbs with her hands, but as it allows the fat to remain in the cheese which the hands squeeze out.

In its pulverized state it is customary with most dairy maids to scald the curd with hot whey: but Mrs. Hayward considers cheese richer when made without scalding the broken curd, this washing the fat out of it. She therefore, without scalding it, puts it into the vats and

presses it closely together with the hand in filling them. In making the double Gloucester cheese, particular care is taken to press any remaining whey from the curd as the vats are being filled, and they are filled as compactly as can be done with the hand, being rounded up in the middle, but just so much so as that the whole can be pressed into the vats. Cheese cloths are then spread over the vats, and a little hot water is thrown over the cheese cloths, which tends to harden the outside of the cheese and prevent it from cracking. The curd is now turned out of the vats into the cloths, and the vats being dipped in the whey to wash away any crumbs of curd that may cling to them, the curd inverted, and with the cloth around it, is again put into them. The cloths are then folded over and tucked in, and the vats, as they are filled, and put into the press one upon another. The bottoms of the vats are smooth and a little rounded so as to answer the purpose of cheese boards, which, therefore, are only wanted for the uppermost vats, or when the other vats are not quite full. The vats are allowed to remain under the press about two hours, when they are taken out and dry cloths are applied, which with double Gloucester cheeses, should be repeated some time in the day.

Salting, and Salting Presses.—The vats, when the clean cloths are given, as just mentioned, are changed from the single press to the one next to it, and placed in it, one upon another, as before. They remain in this press till the cheeses are salted, when those made in the evening, take the place in the press of those made in the morning, and those made in the evening, are in their turn displaced by those made the following morning; the cheeses of the last making, being always placed lowest in the press, and those of the other makings, rising in it according to the priority of making.* The same order is observed in the other two presses, the last, or newest making in each, being lowest, and each making have next above it that which was made last before it. The cheeses pass through the three presses in this order, advancing a step in their progress at each 'meal' or making, till, at last, in four or five days, they come out of the presses and are put on the shelves. They are generally salted at the end of twenty-four hours after they are made, though this is done by some at the end of twelve hours. The salting should never be begun, till the skin is all closed, for if there be any crack in the skin of the cheese at the time of salting, it will never close afterwards. The salting is performed by rubbing with the hand both the sides and the edge of the cheese with finely powdered salt. The cheese, after this, is returned to the vats and put under the press, care being always taken according to what has been said, to put the newest cheese lowest in the press, and the oldest uppermost. The salting is repeated three times with the single, and four times with the double Gloucester, twenty-four hours being allowed to intervene between each salting. After the second salting, the cheeses are returned to the vats without the cloths, that the marks of the cloth may be effaced, and the cheese may get a smoothness of surface and 'keenness of edge,' which is a peculiarity of Gloucestershire cheese. The double Gloucester remain in the presses five days, and the single, four; but in damp weather, they should remain longer. The quantity of salt generally used, is about three pounds and a half, to a hundred weight of cheese. The size of the double Gloucester cheeses is commonly about five to the hundred, or twenty pounds each, and that of the single, about eight to the hundred, or twelve and a half pounds each.

The Cheese room.—When the cheeses are taken from the salting presses, they are put on the shelf in the dairy for a day or two, where they are turned once in twelve hours. They are then taken to the cheese loft to make way for the new ones. In the cheese room, either on the floor or on the 'cheese rack,' they are turned once every day; and in general, in a month from the time they were taken out of the vat, they are ready for cleaning, which is done by scraping them with a common knife. The cheese, if intended for the London market, as is generally the case, is rubbed, after being cleaned, with a paint of Indian red or Spanish brown, or a mixture of both and small beer. It is rubbed on with a woollen cloth. After being painted, it is turned over twice a week, and oftener if the weather is damp; and as soon as the state of the paint will permit, the edge of the cheese, and about an inch of each side, is rubbed hard with a cloth, at least once a week.

Characteristics of the true Gloucester.—The marks of true Gloucester cheeses, are 'the blue coat' which arises through the paint on their sides, and which is a sure sign of their richness and sweetness; the yellow, golden hue of their edges, a smooth, close and wax-like texture; a very mild and rich flavor; not crumbling when cut into thin slices, nor parting when toasted, with the oily matter they contain, but softening, without burning. If cheese has been soured in the making, either from being too long in hand, or from want of attention in scalding the utensils, nothing will cause it to assume the blue coat. If the curd is salted when ground down before being put into the vats, the salt has the effect of giving a skin to each of the particles of curd it comes in contact with, which prevents them from intimately uniting; and although the curd may be pressed together and make good cheese, yet it never becomes a smooth, close, solid mass, like that which is salted after it is made; but is of a loose texture, and crumbles when cut; and although it may be equally fat, yet in toasting, the fat melts out of it, and the cheesy part burns. The skin of the cheese, too, is not tough and solid, but hard and brittle, and when examined, seems to be formed of many irregular portions.

* From this, we infer that a beam press is used, into which several cheeses may be put at once, the older ones which require the greatest pressure being put nearest the fulcrum.

PRESERVING EGGS.

At one of the Farmers' Meetings in Boston last winter, Col. Thayer gave his mode of preserving eggs, as follows: Take a quart of salt and three quarts of lime, and add water till the whole, stirred up and dissolved, is of the consistency of cream; then put in the eggs.

The Mass. Plowman gives the following from a Sherburne correspondent:

To one peck of lime put one pound of alum, and make a solution as for white washing. Put the tip end of the egg down to prevent the yolk adhering to the side, then fill up the vessel that contains the eggs with the solution to cover them completely. In a few days the lime will become dry, then fill the cask with sea water, or brine of the same strength, to be kept moist.

A correspondent of the Prairie Farmer, says a lady of his acquaintance colors wool and woolen goods, blue, with *purslane*, a common garden weed—that the lady assured him it was equal in every respect to the best indigo blue.

HARD MILKERS.

It is well known that some cows milk so hard that the labor is so severe as to exceed the value of the milk when obtained. We have seen several notices of late, on this subject, in the papers, from different writers, and different methods recommended of obviating the evil One has proposed the introduction of a keen narrow bladed knife, to enlarge the opening of the teat, and says the practice has been entirely successful. Another says he made some pine plugs and crowded into the teat holes, and let them remain about two weeks, except when milking, and afterwards had no trouble with the cow. Another recommends the insertion of a small quill, for the double purpose of enlarging the opening and drawing off the milk without using the hand; the quill to be withdrawn at each milking.

Now we should fear the result of this tampering with the teat, the more so as a few years since we knew a valuable cow, not a hard milker, that lost her bag from an inflammation caused by the introduction of a quill for the purpose of drawing off the milk, by an ease-loving boy milker. The operation was repeated but a few times, yet the result was fatal to the udder. Using a knife we should apprehend, would allow the milk in most cases to flow out as fast as collected; and should expect from the 'pine plug' either a similar result, or an inflammation.

FRUIT TREES.

THE subscribers are now ready to receive orders for superior Trees, viz: Apples, Plums, Pears, Cherries, Peaches, &c. &c., from their new nursery. Trees are all warranted in a healthy condition, and true to their sorts. Orders are entered on the order book, to be forwarded as soon as practicable in the fall. Orders respectfully solicited, and will receive prompt attention. WILSON, THORBURN & TELLER.

☞ A liberal discount made to those who purchase to sell again, or by wholesale.

Orders left with WILLIAM THORBURN, Seed and Agricultural Repository, No. 38 Broadway, Albany, will be promptly attended to. *Albany, April* 1, 1844.—2t.

POUDRETTE—A NEW ARTICLE.

IMPROVEMENTS of such a nature have been made in the manufacture of POUDRETTE, by the *Lodi Manufacturing Company*, near the City of New-York, as to warrant the opinion that it is the *cheapest and best Manure* now known and in use. By experiments which have been made, it has been proved that its *fructifying powers have been greatly increased, its operation upon vegetable matter quickened.* It will obviate the effects of *severe drought*, and will retain its fertilizing qualities much longer than any Poudrette heretofore made. It will ripen Corn in 66 days fit for use. The price will be reduced the following season as follows: At the Factory it will be sold in bulk at the rate of 25 cents per bushel. It will be delivered at any wharf or place in the City of New-York, *free of cartage and other expense*, at the rate of $2 for one barrel, which contains 4 bushels; $3,50 for 2 barrels; $5 for 3 barrels, and $10,50 for 7 barrels, and at the rate of $1,50 per barrel for any greater quantity. Persons wishing the article will please give notice in due season, as the orders will be fulfilled in the order of time received. The Company was incorporated in February, 1840, for 30 years by the Legislature of New-Jersey. No liability to stockholders beyond their subscription of $100 per share. A *few shares* of what is called the "*Reserved Stock*," remain to be be subscribed for, which the Company guarantee shall pay a dividend of 50 bushels of Poudrette a year on each share, as authorized by the Charter. A pamphlet containing instructions for its use, and all other necessary information, is in preparation, and will be sent *gratis*, to any person applying for it, postpaid. Agents have been or will be appointed in most of the important places in the Northern and Eastern States, to whom persons may give orders. Where there is no agent, please direct to "*The President of the Lodi Manufacturing Company*, No. 43 Liberty-street, New-York," and it shall receive immediate attention. Please refer to the Letter of Mr. Kentish, in the March number of the CULTIVATOR. New-York, Feb. 15, 1844.

FIELD SEED STORE.

THE subscriber continues to keep constantly on hand at his long established Seed Store, a supply of the best quality and kinds of Field Seeds, viz:

Red Clover, of the large and small growth,
Timothy, Red Top, or *Herd's Grass, Orchard Grass,*
Lucerne, or *French Clover, White Clover,*
Trefoil, Kentucky Blue Grass, &c. &c.

Also, the different varieties of Wheat, as White Flint, Red Chaff, Mediterranean, and English—for sale in lots to suit purchasers at moderate prices, by ISRAEL RUSSELL,
Feb. 1, 1844.—mar. oct. 26 Front-street, New-York

N. B. The following description of some superior English Wheat sown in the month of October last, the product of which will be for sale at the above Store, is given by a respectable English farmer in the State of New-Jersey, who sowed about eleven bushels, a sample of which can yet be seen. "It is called the Uxbridge White Wheat, and is the most noted Wheat they have in England, it being of fine quality, always commands a high price, as the flour is used by the biscuit bakers in London; it is great for yielding, and puts out a much larger ear than any wheat I have seen in this country. I saw when in England, three years ago, on my brother's farm in one field, 120 acres, that yielded 40 bushels and upwards to the acre. It grows very strong, and is not liable to be laid by heavy rains. I will warrant it free from any soil whatever. I did not see in the eleven bushels, a particle but Wheat; and I have sown it on Clover seed, on purpose that there shall be nothing but Wheat; and I will put nothing in the barn with it, so as to put it beyond the possibility of a doubt of its having any thing in it or getting mixed with other Wheat, which through carelessness is often the case. I have grown a great deal of it myself in England, and know from experience that for yield and quality, there is no Wheat to compete with it. Its general weight is from 64 to 67 lbs. per bushel. It is smooth chaff, and easy to thrash, which is not always the case with smooth chaff Wheat."

PROUTY & MEAR'S PATENT CENTRE-DRAUGHT SELF-SHARPENING PLOWS,

FITTED up with new gear complete of six different sizes. Also, *Prouty & Mear's Sub-soil Plows*, of three sizes, viz: No 1, for one horse, $8; No. 2, for two horses, $10; No. 3, for three or four horses, $12. For sale wholesale and retail, by
D. O. PROUTY,
Seed and Implement Warehouse, No. 176 Market-st.
Philadelphia, March 18, 1844.—2m.

ALBANY SEED STORE AND AGRICULTURAL WARE-HOUSE—No. 38, BROADWAY.

THE proprietor is now receiving from his seed growers, a full and complete assortment of American Garden Seeds, all of which are selected with care, being grown from the best varieties of vegetables to be found in the country; also European Seeds, Plants and Flower Seeds from the best establishments in Europe and America.

Fruit Trees of all the choicest kinds furnished to order at the lowest market prices, and warranted true as represented. Agricultural and Horticultural Implements of American and European manufacture. Also, the New England Ploughs, Cultivator Ploughs, Root Slicers, Corn-Shellers, Straw-Cutters, &c. Those who wish to purchase or examine are respectfully invited to call Albany, March 15.—2t. W. THORBURN, Seedsman.

BAILEY & RICH'S SMUT MACHINE.

MANUFACTURED and for sale by J. T. E. & C. RICH, Shoreham, Vt. Patented in 1841, much improved in 1843.

These Machines are made wholly of iron and steel, very compact, efficient, simple in construction, and durable. They are so made, that a strong current of air is forced into the centre of the machine, and passing out sideways through cracks in the inner and outer cylinders, expels the dust as fast as created, and prevents it from mingling again with the grain, as it does in other mills, so as to often blacken the kernels.

They will clean from 15 to 25 bushels per hour. Warranted to suit upon 3 months trial. Shoreham, Feb. 16, 1844.—3t

DURHAM BULLS, DUKE OF WELLINGTON AND METEOR.

AS frequent applications are made by gentlemen at a distance for the use of these animals, to prevent applications by letter this notice is given.

These animals will be let to cows at $10 each; the money in all cases, to be sent with the cows, and paid to the subscriber. Wellington was bred by Thomas Bates, Esq., of England, and out of his prize cow, Oxford, celebrated as a milker. Meteor bred by Mr. Geo. Vail, of Troy, and out of his imported heifer, Duchess, and got by Wellington. Duchess was also bred by Mr. Bates, and got by his celebrated prize bull Duke of Northumberland. These animals are on Mr. Vail's farm, about two miles from Troy, and will be allowed to serve a few cows out of his own herd. Pasture for a short time may be had for cows sent, at the usual prices. Apply to the subscriber on the farm.
April 1, 1844.—3t. A. CLOCKIE.

FINE FARMS FOR SALE.

THOSE very superior Farms situated near Galway Corners, in the county of Saratoga, collectively known as the Earl Stimson Farm, will be sold cheap and on terms most accommodating to the purchasers as to credit. The property consists of about 340 acres, is so situated as to be conveniently divided into three or four farms, all having the necessary buildings, and will be sold together or in parcels, to suit purchasers. Each farm is properly divided into pasture, tilled and wood land, and is in the highest state of cultivation, fenced in the best manner and with the most durable materials. The property comprises among other buildings, a large and convenient hotel, which is a favorite resort of families in the summer on account of the superior healthiness and beauty of the country. The farming buildings of all kinds are most extensive and convenient for all the purposes of agriculture and the raising of stock. The premises also include a country store, a most eligible location for a country merchant, having been occupied as such for about forty years. It is within two hours drive of Ballston, Saratoga, and Schenectady. The farm is well known among leading agriculturists, and in the agricultural periodicals, as the Pattern Farm. For terms, &c., apply to J. OAKLEY,
Oct. 1.—tf. No. 75 Nassau street, New-York.

S. CORNELL'S DISTRICT SCHOOL GLOBE.

A BEAUTIFUL and cheap instrument, 5 inches in diameter, accompanied with a card of lessons illustrating the form of the earth, day and night, inclination of the axis of the earth to its orbit, change of seasons, difference of time in different parts of the earth, and the difference in the length of the day.

Owing to the peculiar construction of this globe, and the accompanying lessons, it is better adapted to elementary illustrations in geography, than any other now in use; and its cheapness renders it admissable to every school. It should be in every school and every family.

Manufactured by Silas Cornell, Rochester, State of N. Y., and retailed at $1,50. A liberal discount allowed to dealers. April 1.—4t.

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☞ ADVERTISEMENTS inserted in the Cultivator, at $1,00 per 100 words for each insertion.

AGRICULTURAL IMPLEMENTS, &c.

THE undersigned are Agents in this city to sell the following celebrated machines, viz:

Hussey's Premium Corn and Cob Crusher.
Dickey's " Fanning Mill.
Platt's " Portable Grist Mill.

And proprietors of Warren's Premium Portable Horse Power and Thrashing Machine. Also for sale,

Hovey's Premium Straw Cutter, (Spiral knives.)
Warren's " "
Hull's Stalk Cutter.

Terms cash.—Liberal deductions made to dealers from retail prices.

L. BOSTWICK & CO,
146 Front street, New York.

my1.—1t.

HUSSEY'S REAPING MACHINES,

GREATLY improved, warranted to cut twenty acres of wheat in a day. The same machine, by a change in some of its parts, will cut hemp; this was satisfactorily proved last year in Kentucky

Hussey's Corn and Cob Crushers, lately much improved. Price from 25 to 45 dollars, with a set of extra grinders.

Hussey's Corn Shelling and Husking Machines, all manufactured and kept for sale by the subscriber, in Baltimore, Maryland. All other agricultural implements made to order. Baltimore possesses ample facilities for shipping to all ports of the United States

OBED HUSSEY.

P. S. The Reaping Machines tried against McCormack's, last year, near Richmond, Va., and reported upon unfavorably by a committee, was an experiment machine, made to sell at a low price. The machines ordered of me by Hon. William H Roane, one of the committee, (who subsequently changed his opinion, as noticed in the last Cultivator) is my ordinary machine, so well known as *Hussey's Reaping Machine*, now advertised; this machine was tried against McCormack's repeatedly in the same harvest, with decided advantage, but no report was made of any trial except when my inferior machine was used.

O. H.

NOTICE.

GENTLEMEN wishing to find a place with a farmer in the country, for their sons, where they can have an opportunity of making themselves acquainted with practical as well as theoretical agriculture, may hear of such a place by enquiring of the editor of this paper.

TO GENTLEMEN FARMERS.

A YOUNG Scotchman (unmarried) is desirous of obtaining a situation as overseer on a farm. He has received a liberal education, and for several years has devoted his whole attention to the attainment of all the improvements and details of modern husbandry, now practiced with so much success in Scotland. He is also conversant with the management of cattle.

His credentials are of the highest order, and from individuals known to the advertiser. Salary not so much an object as employment in a healthy situation and a comfortable home.

Apply to Watts Sherman, Esq. City Bank, Albany, or to Dr. A. T. Watson, Jr., New York city. 2t

PROUTY & MEARS'

Patent Centre Draught Self-Sharpening Plows,

OF various sizes and prices, from $4,50 to $13 each, with an extra point and share. Wheels will be attached when required. These plows are now believed to be the most perfect plows in use. They are strong, and can be kept in repair at a small expense. Among the premiums which have been received for these plows the following may be named: at Worcester $100; Boston $20, and a gold medal; New-York a gold medal; from the Philadelphia Agricultural Society $10; at Wilmington, Del., first premium; at Govanstown, Md, silver cup; at Prince George, Md., silver spoon. Also Subsoil Plows at 6, 8, 10 and 12 dollars each. For sale wholesale and retail at the Seed and Implement Ware-house, No. 176, Market-st., Philadelphia, by 2m. D O. PROUTY.

GREAT SALE OF ELECTORAL SAXON SHEEP.

THE undersigned will sell at vendue the two flocks of *Pure Electoral Saxon Sheep*, belonging to the estate of the late Henry D. Grove, as follows:

1. That at Grainger, Medina co., Ohio, consisting of about 400 sheep, on the farm now occupied by them, on the 30th of *September next.*

2. The home flock, at his late residence in Hoosick, Rensselaer county, N. Y., consisting of about 350 sheep, on the 15th of *October next.*

A rare opportunity is offered to those who may be anxious to improve the quality of their flocks. The following is the opinion of the distinguished manufacturer who has usually purchased Mr. Grove's wool, of the character of these flocks:

"The purest blood in this country was introduced by the late Mr Grove in his own flocks, the wool from which I have been familiar with since their importation in 1827. In point of fineness and admirable felting qualities, this wool is unsurpassed by any flock in this country, and the fleeces average about half a pound each more than any other I am acquainted with of equal fineness. SAM'L LAWRENCE.

Lowel, April 9, 1844."

Terms of sale, cash.—Reference, Sam'l Lawrence, or either of the subscribers.

Buskirk's Bridge, April 20, 1844.

ELIZA W. GROVE,
W. JOSLIN,
S. A. COOK.

my1.—5t.

IMPROVED CATTLE, SHEEP, SWINE, &c.

WITH a view of facilitating the diffusion of Improved Breeds of Cattle—of superior fruit-trees and seeds for field-crops, and of improved farming utensils, a register will be kept at the Hall of the State Agricultural Society, in the Old State-House, Albany, for the purpose of recording the names and residences of persons having any articles of the above character to dispose of. Farmers, stock-breeders, fruit-growers and mechanics, who desire to buy or sell improved articles of any kind needed in farming, can have their requests registered by addressing the subscriber, post-paid—no charge being made for the service. It is desirable that the directions shall be, in all cases, as specific as possible in reference to prices, qualities, &c.

The frequent requests for information from persons desirous of improving their stock of cattle, sheep and swine, as well as their crops of wheat and other grains and fruits, induce the belief that a registry of this kind will be found measurably useful in promoting the objects of the State Agricultural Society—as it often happens that farmers are induced to try experiments when improved breeds and seeds can be conveniently obtained.

Various improved breeds of cattle, sheep, swine and fowls, are now registered; as are also sundry improved varieties of wheat—well worthy of attention from farmers desirous of bettering the condition of their stock and crops.

Agricultural, and other journals friendly to the objects of this notice, are requested to give it an insertion.

HENRY O'REILLY, *Rec. Sec. State Ag. Soc.*

FROM THE STEAM PRESS OF C. VAN BENTHUYSEN & CO